

DR. B.C. ROY ENGINEERING COLLEGE

SELF ASSESSMENT REPORT(TIER - II) FOR Computer Science and Engineering

Part A : Institutional Information

1 Name and Address of the Institution

DR. B.C. ROY ENGINEERING COLLEGE,
JEMUA ROAD, FUJTHORE, DURGAPUR-713206

2 Type of the Institution:

- | | |
|--|--|
| ☐ Self-Supported Institute | ☐ Autonomous |
| ☐ Deemed University | ☒ Non-Autonomous (Affiliated) |
| ☐ University | ☐ Any Other(Please Specify) |
| ☐ Institute of National Importance | |

3 Year of establishment of the Institution:

2000

4 Ownership Status:

- | | |
|---|--|
| ☐ Central Government | ☐ Any Other(Please Specify) |
| ☐ State Government | |
| ☐ Government Aided | |
| ☒ Self financing | |

5 Name and Address of Affiliating University

NIL

6 Other Academic Institutions of the Trust/Society/Company etc., if any:

Name of Institutions	Year of Establishment	Programs of Study	Location
Dr. B. C. Roy College of Ph	2005	B. Pharm, M. Pharm, D. Ph	Bidhannagar, Durg
Dr. B. C. Roy Academy of P	2008	BBA, BCA, B.Sc., Bachelor	Jemua Road, Fuljh
Dr. B. C. Roy Polytechnic	2014	Civil, Electrical, Mechanical	Dr. Meghnad Saha

7 Details of all the programs being offered by the institution:

Program Name	Program Applied level	Year of Start	AICTE approval details	Sanctioned Intake	Increase/decrease in intake	Current Intake	Accreditation status	From	To	Progr consi
Computer Science and Engineering	UG	2000	2024	60	Yes	180	Granted accreditation for 3 years for the period (specify period)	2023	2026	

Sanctioned Intake for Last Five Years for the Computer Science and Engineering

Academic Year	Sanctioned Intake
2025-26	180
2024-25	180
2023-24	120
2022-23	120
2021-22	120
2020-21	120

Computer Science and Engineering	PG	2009	2009	18	No	18	Eligible but not applied	--	--	
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8 Programs to be considered for Accreditation vide this application:

S No	Level	Discipline	Program
1	Under Graduate	Engineering & Technology	Computer Science and Engineering
2	Under Graduate	Engineering & Technology	ELECTRONICS AND COMMUNICATION ENGINEERING

Table No. A8.2

S No	Name of the Department	Name of the Program	Name of Allied Departments/Cluster	Name of Allied Program
1	Computer Science and Engineering	Computer Science and Engineering	Computer Science and Design	Computer Science and Design
2	Computer Science and Engineering	Computer Science and Engineering	Computer Science and Engineering (Artificial Intelligence and Machine Learning)	Computer Science and Engineering (Artificial Intelligence & Machine Learning)
3	Computer Science and Engineering	Computer Science and Engineering	Computer Science and Engineering (Cyber Security)	Computer Science and Engineering (Cyber Security)
4	Computer Science and Engineering	Computer Science and Engineering	Computer Science and Engineering (Data Science)	Computer Science and Engineering (Data Science)
5	Computer Science and Engineering	Computer Science and Engineering	Information Technology	Information Technology

9 Total Number of Faculty Members in Various Departments:

ID	Department Name	Number of faculty members in the Department (UG and PG)									
		2025-26 (CAY)				2024-25 (CAYm1)				2023-24 (CAYm1)	
		No. of Professors	No. of Associate Professors	No. of Assistant Professors	Total faculty members	No. of Professors	No. of Associate Professors	No. of Assistant Professors	Total faculty members	No. of Professors	No. of Associate Professors
1	Computer Science and Engineering	1	5	25	31	1	4	21	26	1	4
2	Computer Science and Engineering (Artificial Intelligence and Machine Learning)	0	1	6	7	0	1	5	6	0	1
3	Computer Science and Engineering (Data Science)	0	1	10	11	0	1	10	11	0	0
4	Computer Science and Design	0	1	8	9	0	0	9	9	0	0
5	Information Technology	0	1	9	10	0	0	10	10	0	0
6	Electronics and Communication Engineering	1	6	21	28	3	4	24	31	3	4
7	Electrical Engineering	3	2	19	24	3	2	22	27	3	2
8	Civil Engineering	1	0	10	11	1	0	10	11	1	0
9	Mechanical Engineering	2	2	13	17	2	2	13	17	2	2
10	Computer Science and Engineering (Cyber Security)	0	0	4	4	0	0	4	4	0	0
11	Master of Computer Applications	0	0	7	7	0	0	7	7	0	0
12	Master of Business Administration	2	1	5	8	2	1	7	10	2	1

10 Total Number of Engineering Students in Various Departments:

ID	Department Name	Number of students in the Department (UG and PG)		
		2025-26 (CAY)	2024-25 (CAYm1)	2023-24 (CAYm2)
1	Computer Science and Engineering	649	622	557
2	Computer Science and Engineering (Artificial Intelligence and Machine Learning)	183	158	98
3	Computer Science and Engineering (Data Science)	231	164	128
4	Computer Science and Design	214	241	196
5	Information Technology	220	257	269
6	Electronics and Communication Engineering	449	489	498
7	Electrical Engineering	381	460	505
8	Civil Engineering	136	164	203
9	Mechanical Engineering	181	238	297
10	Computer Science and Engineering (Cyber Security)	94	47	0
11	Master of Computer Applications	181	160	117
12	Mastersin Business Administration	127	116	118

11 Vision of the Institution:

To transform the institution into a global centre of learning through synergic application of creativity, innovation and discipline.

12 Mission of the Institution:

1. Create ideal ambience for learning and growth.
2. Help students inherit value-systems, be creative and agile thinkers.
3. Establish discipline, Value-added education and Training & Placement as three core values.
4. Building capabilities among students to lead from the front as also be a team player.
5. Develop a symbiotic relationship between the institution, society and the community, for mutual betterment..
6. Expand the Vistas of higher learning in Technology and Management Fields, including Post-Graduate Studies and Research.
7. Encourage global vision and integration with International Best Practices for Local, Regional and National Development.

13 Contact Information of the Head of the Institution and NBA coordinator, if designated:

Head of the Institution	
Name	Dr. Sanjay S. Pawar
Designation	Principal
Mobile No.	9819090993
Email ID	principal@bcrec.ac.in

☒ NBA Coordinator, If Designated

Name	Prof. Hiranmay Samaddar
Designation	Assistant Professor
Mobile No.	9474564241
Email ID	hiranmay.samaddar@bcrec.ac

PART B: Criteria Summary

Criteria No.	Criteria	Total Marks	Institute Marks
1	OUTCOME-BASED CURRICULUM	120	120.00
2	OUTCOME-BASED TEACHING LEARNING	120	120.00
3	OUTCOME-BASED ASSESSMENT	120	120.00
4	STUDENTS' PERFORMANCE	120	102.11
5	FACULTY INFORMATION	100	69.04
6	FACULTY CONTRIBUTIONS	120	105.00
7	FACILITIES AND TECHNICAL SUPPORT	100	100.00
8	CONTINUOUS IMPROVEMENT	80	80.00
9	STUDENT SUPPORT AND GOVERNANCE	120	120.00
	Total	1000	936

Part B : Criteria Summary

1 OUTCOME-BASED CURRICULUM (120)

1.1 Vision, Mission and Program Educational Objectives (PEOs) (35)

1.1.1 State the Vision and Mission of the Institute and the Department (5)

Vision of the institute	To transform the institution into a global centre of learning through synergic application of creativity, innovation and discipline.											
Mission of the institute	1. Create ideal ambience for learning and growth. 2. Help students inherit value-systems, be creative and agile thinkers. 3. Establish discipline, Value-added education and Training & Placement as three core values. 4. Building capabilities among students to lead from the front as also be a team player. 5. Develop a symbiotic relationship between the institution, society and the community, for mutual betterment.. 6. Expand the Vistas of higher learning in Technology and Management Fields, including Post-Graduate Studies and Research. 7. Encourage global vision and integration with International Best Practices for Local, Regional and National Development.											
Vision of the Department	To transform the department into a center of excellence for Computer Science and Engineering, through conscious, meaningful, devoted and determined effort of all the stakeholders, by synergistic application of creativity, innovation, discipline and social consciousness.											
Mission of the Department	<table><tr><th>Mission No.</th><th>Mission Statements</th></tr><tr><td>M1</td><td>Prepare the students for direct employment in various computer science & computer engineering-related careers.</td></tr><tr><td>M2</td><td>Enable the students for the pursuit of higher studies and / or research</td></tr><tr><td>M3</td><td>Encourage the students for entrepreneurship in computer science and engineering.</td></tr><tr><td>M4</td><td>Impart quality and value-based education as per the needs of the society.</td></tr></table>		Mission No.	Mission Statements	M1	Prepare the students for direct employment in various computer science & computer engineering-related careers.	M2	Enable the students for the pursuit of higher studies and / or research	M3	Encourage the students for entrepreneurship in computer science and engineering.	M4	Impart quality and value-based education as per the needs of the society.
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M2	Enable the students for the pursuit of higher studies and / or research											
M3	Encourage the students for entrepreneurship in computer science and engineering.											
M4	Impart quality and value-based education as per the needs of the society.											

1.1.2 State PEOs of the Program (5)

PEO No.	Program Educational Objectives Statements
PEO1	Graduates will establish successful careers in computing and IT industries or pursue higher education.
PEO2	Graduates will analyze, design, and implement computing solutions to solve real-world problems, lifelong learning, innovation, and emerging technologies.
PEO3	Graduates will function effectively as professionals with ethical values, teamwork, communication skills, and leadership qualities.

1.1.3 Process of Defining Vision, Mission and PEOs (15)

The process to arrive at the Vision and Mission of the department is as follows:

Step 1:	Strengths, Weaknesses, Opportunity, and Challenges (SWOC) were the basis for identifying the key indicators for framing the Vision and Mission statements. This process also attempted to understand the aspirations of the stakeholders and look into some of the benchmark institutions in the system for arriving at the draft Vision and Mission.
Step 2:	The Department Academic Committee (DAC) reviewed the draft of the Department's Vision and Mission after taking into consideration the views and suggestions of various stakeholders while ensuring alignment with Institute's Vision and Mission.
Step 3:	The Department Academic Committee (DAC) recommends the draft of the Department's Vision and Mission to the competent authority.
Step 4:	Authority reviews the draft of the Vision and Mission statements of the Department.
Step 5:	The approved Vision and Mission of the Department are published.

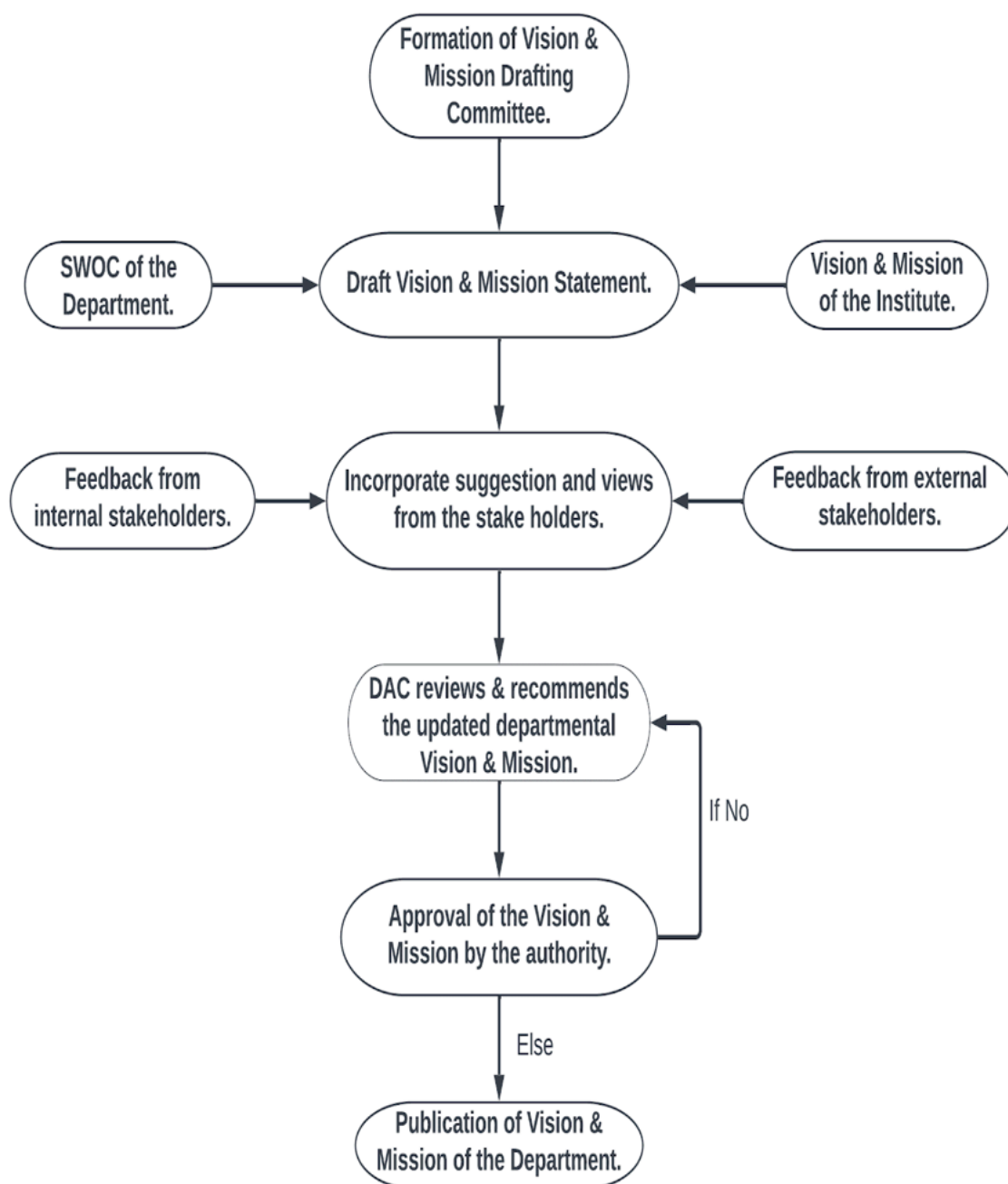


Figure: 1.1.3.1. A Process Flow Diagram for Framing the Vision and Mi

The process to arrive at the PEOs of the program is as follows:

Step 1:	The drafts of PEOs are defined from Vision and Mission of the Department.
Step 2:	The Department Academic Committee (DAC) reviews the draft of the PEOs of the program after taking into consideration the views and suggestions of various stakeholders.
Step 3:	The Department Academic Committee (DAC) recommends the draft of the PEOs of the program to the competent authority.
Step 4:	The authority reviews the draft of the PEOs of the program.
Step 5:	The approved PEOs are published by the department.

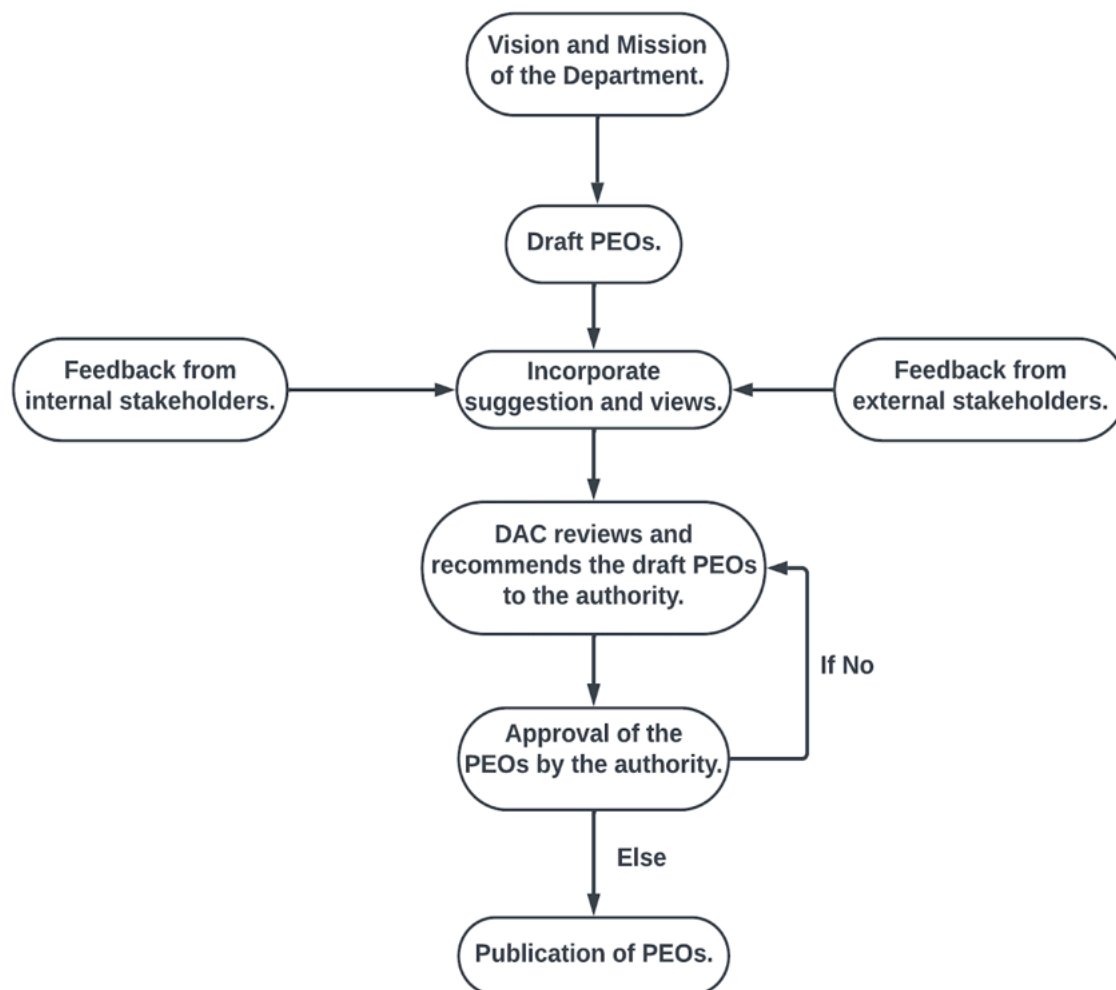


Fig: 1.1.3.2 Process Flow Diagram for Framing the PEOs

1.1.4 Dissemination of Vision, Mission and PEOs (5)

The table below shows the location where Vision and Mission are published and disseminated:

Table 1.1.4.1. Availability of the Vision and Mission statements

SL. NO.	LOCATION	INSTITUTION		DEPA
		Institute Vision	Institute Mission	Department Vision
1.	Institutional website (www.bcrec.ac.in)	✓	✓	✓
2.	Prospectus	✓	✓	✓
3.	College Library	✓	✓	
4.	Social media	✓	✓	✓
5.	Head of the Department Room	✓	✓	✓
6.	Departmental Library			✓
7.	Departmental Seminar Hall			✓
8.	Faculty Room	✓	✓	✓
9.	Classrooms			✓
10.	Laboratories			✓
11.	CSE Project Laboratory			✓
12.	Think IoT - Research Laboratory			✓
13.	Departmental Notice board	✓	✓	✓
14.	Course Files			✓
15.	Laboratory Manuals			✓
16.	Departmental Magazine/Newsletter			✓

Process of dissemination among stakeholders

The Vision, Mission, and PEOs of the institute and the department are disseminated to the various stakeholders during interactions with them. The Vision and Mission of bc communicated to the stakeholders as mentioned below:

- (i) **Student induction program** - The students are made aware of the Vision, Mission, and PEOs of the institute and the department during the before the classes of the first year's first semester start.
- (ii) **Guardian interaction** - The guardians are made aware of the Vision, Mission, and PEOs of the institute and the department in an interactive
- (iii) **Interaction with the employers at the time of placement** - During the time of placement, the employers are made aware of the Vision, Mission sessions.
- (iv) **Departmental events like workshops, conferences and seminars** - Events like workshops, conferences and seminars are organized regularly PEOs of the institute and the department. In addition, the faculties and HOD often take the responsibility of making the students aware of the mission, vision

A. Extent of awareness of Vision, Mission & PEOs among the stakeholder

The extent of awareness of Vision, Mission & PEOs among the stakeholders can be considered very satisfactory and extremely outreaching as extensive care is taken to ensure Mission & PEOs. The department ensures that the Vision, Mission and PEOs and their significance are explained to the students. The faculty members and non-teaching staff conducted during the formulation of Vision, Mission and PEOs. Their opinions are given due importance. The Vision, Mission and PEOs are also disseminated to other stakeholders

List of stakeholders:

Stakeholders of an organization play a very important role in deciding the organizations actions, objectives, and policies. The organization needs to engage with its stakeholders expectations, and attitudes, and accordingly formulate its actions, objectives, and policies. Students and faculties are our most significant stakeholders. Students require various options of teaching-learning process and general educational methodologies in imparting value-based education to the students and also mentoring/counseling the Stakeholders can be categorized into two segments. The lists of stakeholders are as mentioned below:

❖ Internal stakeholders:

- **Students:** Display on notice boards, Induction programs, and mentor-mentee meetings.
- **Faculty:** Faculty rooms, Faculty meeting, Course files.
- **Non-technical staff:** Display on notice boards and corridors.
- **Management:** Individual copies of Vision and Mission shared circular through the mail and during faculty & staff meetings.

❖ External stakeholders:

- **Parents:** Parents-teachers Interactions.
- **Alumni:** Alumni meet / E-Mails / Institute Website.

- **Industry/employer:** E-Mails / Institute Website.
- **Affiliating University:** E-Mails / Institute Website.
- **AICTE/NBA:** SAR / Institute Website.

1.1.5 Mapping of PEOs with Mission (10)

PEO Statements	M1	M2	M3	M4
Graduates will establish successful careers in computing and IT industries or pursue higher education.	3	3	3	1
Graduates will analyze, design, and implement computing solutions to solve real-world problems, lifelong learning, innovation, and emerging technologies.	2	1	2	2
Graduates will function effectively as professionals with ethical values, teamwork, communication skills, and leadership qualities.	1	1	1	3

The following table demonstrates the justification and rationale of mapping

Table 1.1.5.1: PEOs and Mission statement justification

PEOs and Mission statement mapping		
	Mapping	Justification
PEO 1 with Mission statements	PEO 1 with M1	PEO 1 aims to establish careers in the IT industry (exact intended outcome employment). The department achieves this by providing a foundation in core engineering, practical technical skills, mathematics, directly translating to immediate job readiness and sustained career growth.
	PEO 1 with M2	PEO 1 explicitly targets higher education, flawless M2's mission to enable research in advanced studies. By nurturing academic research capabilities, incentivizing MOOCs, the department directly fuels the student's journey from undergraduate studies to scholarly pursuits.
	PEO 1 with M3	A successful career in computer entrepreneurship (PEO 1) includes the path to entrepreneurship (M3). The correlation is justified by the department's proactive Entrepreneurship Development Cell (EDC), which transforms foundational knowledge into tangible ventures through targeted mentorship.
	PEO 1 with M4	While value-based education is foundational to personal development, PEO 1 is primarily driven by technical mastery and career milestones. There are needs and human values supportive, rather than purely in the immediate acquisition of technical career placement.

PEO 2 with Mission statements	PEO 2 with M1	PEO 2 emphasizes problem-solving, lifelong learning, and emerging technologies. While these graduates are highly competent members (M1), they are not on long-term project success. The baseline technical readiness needed for initial, direct employment.
	PEO 2 with M2	PEO 2 focuses heavily on research and designing solutions to complex problems using emerging technologies. While professional competencies and adaptability are useful in research (M2), it is much closer to applied innovation than it does to research or academic research environments.
	PEO 2 with M3	The ability to design complex solutions (PEO 2) heavily overlaps with entrepreneurship (M3). For the financial management, business readiness, and multicultural competencies embedded in solving real-world problems are essential outcomes for managing and launching a startup.
	PEO 2 with M4	Solving real-world problems inherently requires an understanding of what society needs (M4) on professional ethics and innovative solutions creation. A moderate, natural bridge exists between technical design and value-driven, socially conscious engineering.
PEO 3 with Mission statements	PEO 3 with M1	PEO 3 is entirely focused on teamwork, and leadership skills are beneficial in the workplace (M1), direct employment science is overwhelming. Hard technical competencies and ethical proficiency serve as complementary assets rather than primary hiring metrics.
	PEO 3 with M2	Social responsibility and values (PEO 3) are important in maintaining integrity in the workplace (M2). However, they do not correlate with rigorous academic and technical bedrock required to advance scientific research, resulting in a low but positive correlation.
	PEO 3 with M3	While ethical leadership and communication (PEO 3) are important in a business responsibly, a successful entrepreneur relies much more heavily on innovation, technical problem development, and risk-taking.
	PEO 3 with M4	PEO 3 and M4 share identical philosophies. PEO 3's goal is to produce professionals with ethical values, social responsibility, and teamwork flawlessly aligned with the mission of imparting valuable education. Initiatives like the Additional Requirements actively guarantee this development.

1.2 Curriculum Structure and Features (30)

1.2.1 Program Curriculum Structure (5)

[Edit](#)

ID	Course Code	Course Title	Classroom Instruction (CI) (in hours per semester)		Lab Instruction (LI) (in hour per semester)
			L	T	P
1	BS-PH101	Physics I	45	25	0
2	BS-M101	Mathematics IA	45	20	0
3	ES-EE101	Basic Electrical Engineering	45	30	0
4	BS-PH191	Physics I Laboratory	0	0	42
5	ES-EE191	Basic Electrical Engineering Laboratory	0	0	15
6	ES-ME192	Workshop	0	0	45
7	BS-CH201	Chemistry I	45	25	0
8	BS-M201	Mathematics IIA	45	12	0
9	HM-HU201	English	45	0	0
10	BS-CH291	Chemistry I Laboratory	0	0	42
11	ES-ME291	Engineering Drawing	45	5	0
12	HM-HU291	Language Laboratory	0	0	15
13	ES-CS201	Programming for Problem Solving	45	8	0
14	ES-CS291	Programming for Problem Solving Laboratory	0	0	42
15	PCC-CS301	Data Structure and Algorithm	45	10	0
16	PCC-CS391	Data Structure and Algorithm Laboratory	0	0	42
17	PCC-CS302	Computer Organisation	45	0	0
18	PCC-CS392	Computer Organisation Lab	0	0	42
19	PCC-CS393	IT Workshop (Python)	0	0	42
20	ESC 301	Analog and Digital Electronics	45	6	0
21	ESC 391	Analog and Digital Electronics Lab	0	0	42
22	BSC 301	Mathematics-III	45	15	0
23	HSMC 301	Economics for Engineers	45	3	0
24	PCC-CS401	Discrete Mathematics	45	30	0
25	PCC-CS402	Computer Architecture	45	7	0
26	PCC-CS492	Computer Architecture Lab	0	0	42
27	PCC-CS403	Formal Language and Automata Theory	45	5	0
28	PCC-CS404	Design and Analysis of Algorithms	45	12	0
29	PCC-CS494	Design and Analysis of Algorithms Lab	0	0	42
30	BSC401	Biology	45	0	0
31	MC401	Environmental Sciences	15	0	0
32	PCC-CS501	Compiler Design	45	8	0
33	PCC-CS502	Operating Systems	45	10	0

34	PCC-CS592	Operating Systems Lab	0	0	42
35	PCC-CS503	Object Oriented Programming	45	6	0
36	PCC-CS593	Object Oriented Programming Lab	0	0	42
37	PEC-IT 501B	Artificial Intelligence	45	5	0
38	ESC501	Software Engineering	45	10	0
39	ESC591	Software Engineering Lab	0	0	42
40	HSMC-501	Introduction to Industrial Management	45	7	0
41	PCC-CS601	Database Management Systems	45	9	0
42	PCC-CS691	Database Management Systems Lab	0	0	42
43	PCC-CS602	Computer Networks	45	6	0
44	PCC-CS692	Computer Networks Lab	0	0	42
45	PEC-IT601A	Advanced Algorithms	45	12	0
46	PEC-IT602B	Data Warehousing and Data Mining	45	5	0
47	OEC-IT601A	Numerical Methods	45	8	0
48	PROJ- CS601	Research Methodology	45	0	0
49	PEC- CS701E	Machine learning	45	10	0
50	PEC- CS702E	Cyber Security	45	7	0
51	OEC- CS701A	Operations Research	45	12	0
52	HSMC- 701	Project Management and Entrepreneurship	45	5	0
53	PROJ- CS781	Project-I & Project-II (Investigative Study + Dissertation)	0	0	0
54	PEC- CS801E	Internet of Things	45	8	0
55	OEC- CS801B	Cyber Law and Ethics	45	3	0
56	OEC- CS802A	E-Commerce and ERP	45	6	0
57	PROJ- CS881	Project-III	0	0	0
		Total	1680	350	663

1.2.2 Components of Program Curriculum (5)

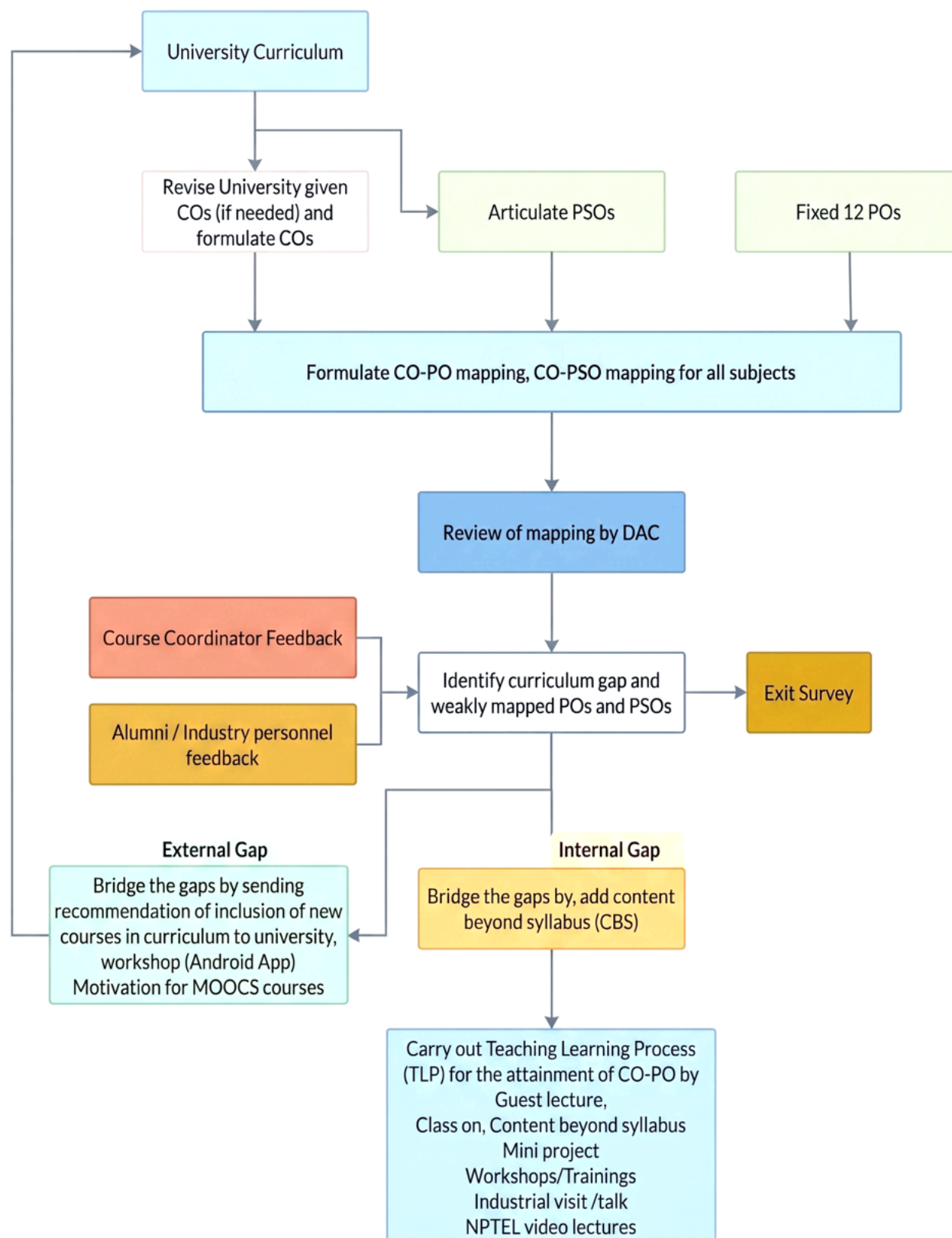
Course Components	Curriculum Content (% of total number of credits of the program)	Total number of Credits
Basic Sciences	15	720.00
Basic Engineering	16.25	780.00
Humanities and Social Scie	7.5	360.00
Program Core	34.375	1650.00
Program Electives	9.375	450.00
Open Electives	7.5	360.00
Project(s)	7.5	360.00
Internships/Seminars	0	0.00
Any other (Please specify)	2.5	120.00
Total number of Credits		

1.2.3 State the Process Used to Identify Extent of Compliance of the University Curriculum for Attaining the Program Outcomes and Program Specific Outcome Gaps, if any (10)

The institute (Dr. B. C. Roy Engineering College, Durgapur) and the programs are affiliated to a **Maulana Abul Kalam Azad University of Technology (MAKAUT)**, hence does not have freedom to modify the course structure or titles. However, the department has established a **systematic, documented process** to map the university-presc measure the extent to which the curriculum helps attain these outcomes. In this regard, the Department Academic Committee (DAC) is framed, which comprises the Head whether the syllabus provides opportunities for students to acquire appropriate knowledge, skill, and attitude. It also helps to identify the curriculum gaps.

This process involves the following set of activities:

- The curriculum maintains the balance in the composition of basic science, humanities, and professional courses and their distribution in core and elective courses. T time by the board of studies.
- Based on the university curriculum, each faculty frames the course outcomes and assigns a cognitive level for each course outcome according to Bloom's taxonomy based on correlation levels (1- slightly, 2- moderate, 3- substantially). This also identifies the extent of compliance with the university course-wise curriculum for attai
- Program curriculum compliance is verified by creating the CO-PO matrix information of all courses. Mapping helps to identify whether the curriculum meets the POs curriculum. The same process is extended to the COs-PSOs matrix. From mapping, curricular gaps can be identified. Identify the POs and PSOs which are not map the identified gaps in the form of workshops/ seminars/ laboratory experiments/ invited talks/ guest lectures/ expert lectures/ industrial visits etc.



The POs and PSOs attainment are calculated considering cumulative internal examination and semester-end examination. Feedbacks are also collected from external stakeholders for the attainment of POs and PSOs. Finally, the POs and PSOs attainment is calculated considering the relative weightage of direct attainment and indirect attainment. Later the Courses in the Curriculum and mapping with POs and PSOs are shown in Table 1.2.3.1.

The Process to identify extent of compliance of the University curriculum for attaining the Program Outcomes (PO) and Program Specific Outcomes (PSO) is shown in Fig.

Table 1.2.3.1. Courses and their weightage in the Curriculum and mapping with POs and PSOs

Category	Subjects (Count)	Mapped PO	Mapped PSO
Basic Science	5	PO1, PO2, PO3, PO5	PSO1, PSO2
Basic Engineering	4	PO1, PO2, PO3, PO4, PO5	PSO1, PSO2
Humanities & Social Sciences	4	PO10, PO11	PSO1, PSO2
Program Core/Major/ Minor courses	11	PO1, PO2, PO3, PO4, PO5, PO6	PSO1, PSO2, PSO3
Program Electives	6	PO1–PO11	PSO1, PSO2, PSO3
Open Elective/Multidisciplinary	4	PO1, PO2, PO3, PO4, PO5, PO6, PO8	PSO1, PSO2
Mandatory Courses	2	PO11	PSO1
Project	3	PO1–PO5, PO7–PO11	PSO1, PSO2, PSO3
Lab Courses	17	PO1–PO5, PO8, PO9, PO11	PSO1, PSO2, PSO3

Table 1.2.3.2. Weightage & Percentage of individual POs in the entire Program Curriculum

PO	Description (Short)	
PO1	Engineering Knowledge	
PO2	Problem Analysis	
PO3	Design/Development	
PO4	Conduct Investigations	
PO5	Engineering Tool Usage	
PO6	The Engineer and The World	
PO7	Ethics	
PO8	Individual & Teamwork	
PO9	Communication	
PO10	Project Management	
PO11	Life-Long Learning	
Total		

Table 1.2.3.3. Weightage & Percentage of individual PSOs in the entire Program Curriculum

Program Specific Outcome	Weightage (PSO count)	Percentage
PSO1: Apply principles of computer science to develop efficient computing solutions for complex real-world problems.	9	42.9%
PSO2: Design and develop reliable software systems using modern programming languages, tools, frameworks, and contemporary computing platforms.	8	38.1%
PSO3: Integrate knowledge of modern and emerging computing technologies to build innovative and sustainable solutions for societal and industrial needs.	4	19.0%

The weightage and percentage of individual POs in the entire program curriculum is shown in the above-mentioned table (Table 1.2.3.2). The PO level threshold value is set at 30%. The identified weak POs in the curriculum are from PO6 to PO9. Similar analysis is done on the PSOs (shown in Table 1.2.3.3) and the threshold is set to 30%. It is observed that

Table 1.2.3.4. List of Curriculum Gaps for the Attainment of POs and PSOs

Gap No.	Gaps Identified	Action Taken	Supported POs and PSOs
1.	Curriculum gaps current issues. (ex. Cloud Computing, Data Analytics, AIML etc.).	Advanced topics in different courses are delivered as content beyond the syllabus through seminars, webinars, training workshop.	PO1, PO2, PO3, PO4, PO5, PSO1, PSO2, PSO3
2.	Low utilization of contemporary tools. (ex. Industry oriented technologies, Hadoop).	Industrial training, internship, seminars, workshops on Recent Tools/Software.	PO4, PO5, PO8, PO9, PO10, PSO1, PSO2
3.	There are few courses that focus on the environment and sustainability.	Expert lectures on Environment and Sustainability and Events to promote awareness about the same through events of National Service Scheme (NSS) and Entrepreneurship Development Cell (EDC).	PO5, PO6, PO7
4.	Lack of content for developing perception to evaluate socioeconomic, health, safety, legal, and cultural issues.	Lectures in different courses to assess safety, societal, and health issues are identified as content beyond syllabus through Events of National Service Scheme (NSS).	PO6, PO7
5.	Low content to improve communication skills.	Personality Development Program (PDP) in the campus for all the students through Soft-Skill Training (SST), Group Discussions.	PO8, PO9, PO11

1.2.4 State the Delivery Details of the Content beyond the Syllabus for the Attainment of Program Outcomes and Program Specific Outcomes (10)

Table No.1.2.4.1: Details of events organized to cover content beyond the syllabus.

(CAYm1) 2024-25

S.No	PO/PSO as Gap Identified	Name of The Event	Date (DD/MM/YYYY)of The Event	Resource Person
1	Curriculum gaps on current issues (	Application on AI/ML and Data Scie	15/07/2024	Prof. (Dr.) Anupam Basu
2	Low utilization of contemporary tool	Workshop on Python and its scope	20/08/2024	Prof. (Dr.) Anirban Bose
3	Low content to improve communica	Tech Talk	10/09/2024	Prof. (Dr.) Taniya Chakraborty
4	Curriculum gaps on current issues (	AI in Computer Vision	05/10/2024	Prof. (Dr.) Sanjay S. Pawar
5	Curriculum gaps on current issues (	Workshop on IoT	10/02/2025	Prof. Rajib Kumar Mondal

(CAYm2) 2023-24

S.No	PO/PSO as Gap Identified	Name of The Event	Date (DD/MM/YYYY)of The Event	Resource Person
1	Curriculum gaps on current issues (	Research opportunities AI/ML and C	10/08/2023	Prof. (Dr.) Arindam Ghosh
2	Python and its Application in the Ad	Lecture on Python and its Scope	15/09/2023	Prof. (Dr.) Sumana Kundu
3	How to improve communication skill	Tech Talk on Effective Communicati	20/10/2023	Prof. Debadrita Sen
4	Lack of focus on environment and s	Seminar on Best Career Options, Pl	15/02/2024	Prof. Sohini Ghosh
5	Curriculum gaps on Cyber Security	Lecture on Cyber Security and Ethic	10/04/2024	Prof. (Dr.) Arindam Ghosh

(CAYm3) 2022-23

S.No	PO/PSO as Gap Identified	Name of The Event	Date (DD/MM/YYYY)of The Event	Resource Person
1	Curriculum gaps on current issues (	Emerging Opportunities in the field	12/08/2022	Prof. Subhobrata Sarkar
2	Curriculum gaps on current issues (	Tech talk on Python and its Scope	18/09/2022	Prof. (Dr.) Anirban Bose
3	Low content to improve communica	Lecture on Effective Communication	22/10/2022	Prof. (Dr.) Suneeta Dey
4	Lack of emphasis on environment a	Lecture on Best Career Options, Pl	18/02/2023	Prof. (Dr.) Arindam Ghosh
5	Curriculum gaps on Cyber Security	Presentation on Cyber Security and	12/04/2023	Prof. (Dr.) Babul Prasad Tiwari

1.3 PO, PSO and their Mapping with Courses (20)

1.3.1 POs and PSOs (5)

PSO1	
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1.3.2 Mapping between the Courses and POs/PSOs (10)

PO Number	List of Courses
PO1	CHEMISTRY-I (BS-CH201), MATHEMATICS-I (BS-M101), PHYSICS-I (BS-PH101), MATHEMATICS-II (BS-M201), MATHEMATICS-III (BSC- (ES-EE101), Programming for Problem Solving (ES-CS201), Analog and Digital Electronics (ESC-301), Software Engineering (ESC-501), Data CS302), Discrete Mathematics (PCC-CS401), Computer Architecture (PCC-CS402), Formal Language & Automata Theory (PCC-CS403), Des CS501), Operating Systems (PCC-CS502), Object Oriented Programming (PCC-CS503), Database Management Systems (PCC-CS601), Cor Advanced Algorithms (PEC-IT601A), Data Warehousing & Data Mining (PEC-IT602B), Machine Learning (PEC-CS701E), Cyber Security (PEC (OEC-IT601A), Operations Research (OEC-CS701A), Cyber Law and Ethics (OEC-CS801B), E-Commerce and ERP (OEC-CS802A), Research (PROJ-CS881), Physics-I Laboratory (BS-PH191), Basic Electrical Engineering Laboratory (ES-EE191), Workshop/Manufacturing Practices (E Problem Solving (ES-CS291), Engineering Graphics & Design (ES-ME291), Language Laboratory (HM-HU291), IT Workshop (PCC-CS393), A (PCC-CS391), Computer Organisation (PCC-CS392), Computer Architecture (PCC-CS492), Design & Analysis of Algorithms (PCC-CS494), S Object Oriented Programming (PCC-CS593), Database Management Systems (PCC-CS691), Computer Networks (PCC-CS692).
PO2	CHEMISTRY-I (BS-CH201), MATHEMATICS-I (BS-M101), PHYSICS-I (BS-PH101), MATHEMATICS-II (BS-M201), MATHEMATICS-III (BSC- (ES-EE101), Programming for Problem Solving (ES-CS201), Analog and Digital Electronics (ESC-301), Software Engineering (ESC-501), Data CS302), Discrete Mathematics (PCC-CS401), Computer Architecture (PCC-CS402), Formal Language & Automata Theory (PCC-CS403), Des CS501), Operating Systems (PCC-CS502), Object Oriented Programming (PCC-CS503), Database Management Systems (PCC-CS601), Cor Advanced Algorithms (PEC-IT601A), Data Warehousing & Data Mining (PEC-IT602B), Machine Learning (PEC-CS701E), Cyber Security (PEC (OEC-IT601A), Operations Research (OEC-CS701A), Cyber Law and Ethics (OEC-CS801B), E-Commerce and ERP (OEC-CS802A), Research (PROJ-CS881), Physics-I Laboratory (BS-PH191), Basic Electrical Engineering Laboratory (ES-EE191), Workshop/Manufacturing Practices (E Problem Solving (ES-CS291), Engineering Graphics & Design (ES-ME291), Language Laboratory (HM-HU291), IT Workshop (PCC-CS393), A (PCC-CS391), Computer Organisation (PCC-CS392), Computer Architecture (PCC-CS492), Design & Analysis of Algorithms (PCC-CS494), S Object Oriented Programming (PCC-CS593), Database Management Systems (PCC-CS691), Computer Networks (PCC-CS692).
PO3	CHEMISTRY-I (BS-CH201), MATHEMATICS-I (BS-M101), PHYSICS-I (BS-PH101), MATHEMATICS-II (BS-M201), MATHEMATICS-III (BSC- (ES-EE101), Programming for Problem Solving (ES-CS201), Analog and Digital Electronics (ESC-301), Software Engineering (ESC-501), Data CS302), Discrete Mathematics (PCC-CS401), Computer Architecture (PCC-CS402), Formal Language & Automata Theory (PCC-CS403), Des CS501), Operating Systems (PCC-CS502), Object Oriented Programming (PCC-CS503), Database Management Systems (PCC-CS601), Cor Advanced Algorithms (PEC-IT601A), Data Warehousing & Data Mining (PEC-IT602B), Machine Learning (PEC-CS701E), Cyber Security (PEC (OEC-IT601A), Operations Research (OEC-CS701A), Cyber Law and Ethics (OEC-CS801B), E-Commerce and ERP (OEC-CS802A), Research (PROJ-CS881), Physics-I Laboratory (BS-PH191), Basic Electrical Engineering Laboratory (ES-EE191), Workshop/Manufacturing Practices (E Problem Solving (ES-CS291), Engineering Graphics & Design (ES-ME291), Language Laboratory (HM-HU291), IT Workshop (PCC-CS393), A (PCC-CS391), Computer Organisation (PCC-CS392), Computer Architecture (PCC-CS492), Design & Analysis of Algorithms (PCC-CS494), S Object Oriented Programming (PCC-CS593), Database Management Systems (PCC-CS691), Computer Networks (PCC-CS692).
PO4	Basic Electrical Engineering (ES-EE101), Programming for Problem Solving (ES-CS201), Analog and Digital Electronics (ESC-301), Software Computer Organisation (PCC-CS302), Discrete Mathematics (PCC-CS401), Computer Architecture (PCC-CS402), Formal Language & Autom CS404), Compiler Design (PCC-CS501), Operating Systems (PCC-CS502), Object Oriented Programming (PCC-CS503), Database Managerr Artificial Intelligence (PEC-IT501B), Advanced Algorithms (PEC-IT601A), Data Warehousing & Data Mining (PEC-IT602B), Machine Learning ((PEC-CS801E), Numerical Methods (OEC-IT601A), Operations Research (OEC-CS701A), Cyber Law and Ethics (OEC-CS801B), E-Commerce Project-II (PROJ-CS781), Project-III (PROJ-CS881), Physics-I Laboratory (BS-PH191), Basic Electrical Engineering Laboratory (ES-EE191), V Laboratory (BS-CH291), Programming for Problem Solving (ES-CS291), Engineering Graphics & Design (ES-ME291), Language Laboratory (I Electronics (ESC-391), Data Structure & Algorithms (PCC-CS391), Computer Organisation (PCC-CS392), Computer Architecture (PCC-CS49 Engineering (ESC-591), Operating Systems (PCC-CS592), Object Oriented Programming (PCC-CS593), Database Management Systems (PC
PO5	CHEMISTRY-I (BS-CH201), MATHEMATICS-I (BS-M101), PHYSICS-I (BS-PH101), MATHEMATICS-II (BS-M201), MATHEMATICS-III (BSC- (ES-EE101), Programming for Problem Solving (ES-CS201), Analog and Digital Electronics (ESC-301), Software Engineering (ESC-501), Data CS302), Discrete Mathematics (PCC-CS401), Computer Architecture (PCC-CS402), Formal Language & Automata Theory (PCC-CS403), Des CS501), Operating Systems (PCC-CS502), Object Oriented Programming (PCC-CS503), Database Management Systems (PCC-CS601), Cor Advanced Algorithms (PEC-IT601A), Data Warehousing & Data Mining (PEC-IT602B), Machine Learning (PEC-CS701E), Cyber Security (PEC (OEC-IT601A), Operations Research (OEC-CS701A), Cyber Law and Ethics (OEC-CS801B), E-Commerce and ERP (OEC-CS802A), Research (PROJ-CS881), Physics-I Laboratory (BS-PH191), Basic Electrical Engineering Laboratory (ES-EE191), Workshop/Manufacturing Practices (E Problem Solving (ES-CS291), Engineering Graphics & Design (ES-ME291), Language Laboratory (HM-HU291), IT Workshop (PCC-CS393), A (PCC-CS391), Computer Organisation (PCC-CS392), Computer Architecture (PCC-CS492), Design & Analysis of Algorithms (PCC-CS494), S Object Oriented Programming (PCC-CS593), Database Management Systems (PCC-CS691), Computer Networks (PCC-CS692).
PO6	Data Structure & Algorithms (PCC-CS301), Computer Organisation (PCC-CS302), Discrete Mathematics (PCC-CS401), Computer Architecture Design & Analysis of Algorithms (PCC-CS404), Compiler Design (PCC-CS501), Operating Systems (PCC-CS502), Object Oriented Programm Computer Networks (PCC-CS602), Artificial Intelligence (PEC-IT501B), Advanced Algorithms (PEC-IT601A), Data Warehousing & Data Mining (PEC-CS702E), Internet of Things (PEC-CS801E), Numerical Methods (OEC-IT601A), Operations Research (OEC-CS701A), Cyber Law and I
PO7	Artificial Intelligence (PEC-IT501B), Advanced Algorithms (PEC-IT601A), Data Warehousing & Data Mining (PEC-IT602B), Machine Learning ((PEC-CS801E), Research Methodology (PROJ-CS601), Project-II (PROJ-CS781), Project-III (PROJ-CS881).
PO8	Artificial Intelligence (PEC-IT501B), Advanced Algorithms (PEC-IT601A), Data Warehousing & Data Mining (PEC-IT602B), Machine Learning ((PEC-CS801E), Numerical Methods (OEC-IT601A), Operations Research (OEC-CS701A), Cyber Law and Ethics (OEC-CS801B), E-Commerce Project-II (PROJ-CS781), Project-III (PROJ-CS881), Physics-I Laboratory (BS-PH191), Basic Electrical Engineering Laboratory (ES-EE191), V Laboratory (BS-CH291), Programming for Problem Solving (ES-CS291), Engineering Graphics & Design (ES-ME291), Language Laboratory (I Electronics (ESC-391), Data Structure & Algorithms (PCC-CS391), Computer Organisation (PCC-CS392), Computer Architecture (PCC-CS49 Engineering (ESC-591), Operating Systems (PCC-CS592), Object Oriented Programming (PCC-CS593), Database Management Systems (PC
PO9	Artificial Intelligence (PEC-IT501B), Advanced Algorithms (PEC-IT601A), Data Warehousing & Data Mining (PEC-IT602B), Machine Learning ((PEC-CS801E), Research Methodology (PROJ-CS601), Project-II (PROJ-CS781), Project-III (PROJ-CS881), Physics-I Laboratory (BS-PH191 Workshop/Manufacturing Practices (ES-ME192), Chemistry-I Laboratory (BS-CH291), Programming for Problem Solving (ES-CS291), Engineer HU291), IT Workshop (PCC-CS393), Analog and Digital Electronics (ESC-391), Data Structure & Algorithms (PCC-CS391), Computer Organis Analysis of Algorithms (PCC-CS494), Software Engineering (ESC-591), Operating Systems (PCC-CS592), Object Oriented Programming (PC Networks (PCC-CS692).
PO10	ENGLISH (HM-HU201), Economics for Engineers (HSMC-301), Introduction to Industrial Management (HSMC-501), Project Management and Advanced Algorithms (PEC-IT601A), Data Warehousing & Data Mining (PEC-IT602B), Machine Learning (PEC-CS701E), Cyber Security (PEC (PROJ-CS601), Project-II (PROJ-CS781), Project-III (PROJ-CS881).

PO11	ENGLISH (HM-HU201), Economics for Engineers (HSMC-301), Introduction to Industrial Management (HSMC-501), Project Management and Advanced Algorithms (PEC-IT601A), Data Warehousing & Data Mining (PEC-IT602B), Machine Learning (PEC-CS701E), Cyber Security (PEC Sciences (MC401), Constitution of India (HSMC-501A/B), Research Methodology (PROJ-CS601), Project-II (PROJ-CS781), Project-III (PROJ-Engineering Laboratory (ES-EE191), Workshop/Manufacturing Practices (ES-ME192), Chemistry-I Laboratory (BS-CH291), Programming for C++ (ME291), Language Laboratory (HM-HU291), IT Workshop (PCC-CS393), Analog and Digital Electronics (ESC-391), Data Structure & Algorithms (PCC-CS492), Design & Analysis of Algorithms (PCC-CS494), Software Engineering (ESC-591), Operating Systems (PCC-CS592), Management Systems (PCC-CS691), Computer Networks (PCC-CS692).
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1.4 Course Outcomes and Course Articulation Matrix (30)

1.4.1 Course Outcome (Semester Wise) (15)

No. of Core Courses : 8	C2 : 2	C3 : 4
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Note : Number of Outcomes for a Course is expected to be around 6.

Course Code :	BSM101	Semester :	1
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Course Outcome	Statements
BSM101.1	Apply the concept integral calculus to determine curvature and evaluation of different types of improper integrals.
BSM101.2	Understand the domain of applications of mean value theorems, limit and maxima-minima to engineering problems.
BSM101.3	Understand the concept of determinant and learn different types of matrices, concept of rank, system of linear equations, methods of matrix invers
BSM101.4	Understand linear spaces, its basis and dimension with corresponding applications in the field of computer science.
BSM101.5	Learn and apply the concept of Eigenvalues, Eigen vectors, diagonalization of matrices and orthogonalization in inner product spaces for understa
BSM101.6	Design and implement mathematical investigations and projects, including data collection, analysis, and interpretation, and apply appropriate matt

Course Code :	ESCS201	Semester :	2
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Course Outcome	Statements
ESCS201.1	Remember algorithms for arithmetic and logical problems.
ESCS201.2	Understand the algorithms to programs (in C language), correct syntax and logical errors on executing the programs.
ESCS201.3	Implement conditional branching, array, iteration and recursion.
ESCS201.4	Analyse a problem into functions and synthesize a complete program using divide and conquer approach.
ESCS201.5	Apply the concept of arrays, pointers, structures and their applications with the help of programs.
ESCS201.6	Illustrate matrix addition, multiplication, searching and sorting problems.

Course Code :	PCCCS301	Semester :	3
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Course Outcome	Statements
PCCCS301.1	Explain how the choices of data structure & algorithm methods impact the performance of an algorithm.
PCCCS301.2	Apply different kinds of operations, and applications of stack, queue and linked list.
PCCCS301.3	Analyse the non-linear data structure like trees and graphs , their definitions, algorithms with complexity and applications.
PCCCS301.4	Discuss the computational efficiency of the principal algorithms for sorting, searching, and hashing.
PCCCS301.5	Illustrate the benefits of dynamic and static data structures implementations.

Course Code :	PCCCS403	Semester :	4
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Course Outcome	Statements
PCCCS403.1	Understand different formal notations for strings, languages and machines.
PCCCS403.2	Design finite automata, pushdown automata and Turing machine from their associated languages and grammars
PCCCS403.3	Apply pumping lemmas to show a language is not regular or not context free.
PCCCS403.4	Analyze different types of grammars for different types of languages.
PCCCS403.5	Analyze the hierarchy of formal languages, grammars and machines.
PCCCS403.6	Interpret the notions of algorithm, decidability, complexity, and computability.

Course Code :	PCCCS502	Semester :	5
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Course Outcome	Statements
PCCCS502.1	Understand the necessity, development, numerous classification, and design issues of the operating system.
PCCCS502.2	Apply different methods for implementing processes and threads as well as the various process scheduling algorithms.
PCCCS502.3	Identify different challenges associated with deadlock, concurrency, and different synchronization mechanisms.
PCCCS502.4	Analyze several memory management strategies for memory allocations and implementation of virtual memory.
PCCCS502.5	Understand I/O management, disc management, and file system structure.

Course Code :	PCCCS601	Semester :	6
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Course Outcome	Statements
PCCCS601.1	Understand the different issues involved in the design and implementation of a database system.
PCCCS601.2	Create the physical and logical database designs, database modeling, relational, hierarchical, and network models
PCCCS601.3	Apply data manipulation language to query, update, and manage a database.
PCCCS601.4	Analyze the essential DBMS concepts such as: database security, integrity, concurrency, distributed database, and intelligent database, Client/Ser
PCCCS601.5	Evaluate the different issues involved in the design and implementation of a database system.

Course Code :	PECCS701E	Semester :	7
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Course Outcome	Statements
PECCS701E.1	Understand the concept of how to learn patterns and concepts from data without being explicitly programmed.
PECCS701E.2	Analyze the machine learning algorithms as supervised, unsupervised and reinforcement learning.
PECCS701E.3	Evaluate, select and apply the appropriate ML model/s for real life problems.
PECCS701E.4	Understand the scalable ML like Semi-supervised learning and Bayesian Inference learning.
PECCS701E.5	Explore Deep learning techniques and various feature extraction strategies.

Course Code :	PECCS801E	Semester :	8
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Course Outcome	Statements
PECCS801E.1	Understand the vision of IoT from a global context.
PECCS801E.2	Determine the Market perspective of IoT.
PECCS801E.3	Use devices, gateways and data management in IoT.
PECCS801E.4	Apply IoT in Industrial and Commercial Building Automation considering Real World Design Constraints.
PECCS801E.5	Explain various sensor architectures in IoT.

1.4.2 Course Articulation Matrix (10)

1 . course name : C2BSM101

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	P
BSM101.1	Apply the c	3 ▾	3 ▾	3 ▾	3 ▾	1 ▾	- ▾	- ▾	- ▾	1 ▾	1 ▾	3
BSM101.2	Understand	3 ▾	3 ▾	3 ▾	3 ▾	2 ▾	- ▾	- ▾	- ▾	1 ▾	1 ▾	3
BSM101.3	Understand	3 ▾	3 ▾	3 ▾	3 ▾	2 ▾	- ▾	- ▾	- ▾	1 ▾	1 ▾	3
BSM101.4	Understand	3 ▾	3 ▾	3 ▾	3 ▾	2 ▾	- ▾	- ▾	- ▾	1 ▾	1 ▾	3
BSM101.5	Learn and ε	3 ▾	3 ▾	3 ▾	3 ▾	2 ▾	- ▾	- ▾	- ▾	1 ▾	1 ▾	3
BSM101.6	Design and	3 ▾	3 ▾	3 ▾	3 ▾	2 ▾	- ▾	- ▾	- ▾	1 ▾	1 ▾	3
Average		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.

2 . course name : C2ESCS201

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	P
ESCS201.1	Remember	3 ▾	3 ▾	3 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
ESCS201.2	Understand	3 ▾	3 ▾	3 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
ESCS201.3	Implement	3 ▾	3 ▾	3 ▾	3 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
ESCS201.4	Analyse a p	3 ▾	3 ▾	3 ▾	3 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
ESCS201.5	Apply the c	3 ▾	3 ▾	3 ▾	3 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
ESCS201.6	Illustrate m	3 ▾	3 ▾	3 ▾	3 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
Average		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.

3 . course name : C3PCCCS301

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	P
PCCCS301.1	Explain hov	3 ▾	2 ▾	2 ▾	2 ▾	1 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
PCCCS301.2	Apply differ	3 ▾	3 ▾	3 ▾	3 ▾	1 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
PCCCS301.3	Analyse the	3 ▾	3 ▾	3 ▾	3 ▾	1 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
PCCCS301.4	Discuss the	3 ▾	3 ▾	3 ▾	3 ▾	1 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
PCCCS301.5	Illustrate th	3 ▾	2 ▾	2 ▾	2 ▾	1 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
Average		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.

4 . course name : C3PCCCS403

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	P
PCCCS403.1	Understand	3 ▾	2 ▾	3 ▾	2 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
PCCCS403.2	Design finit	3 ▾	3 ▾	3 ▾	2 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
PCCCS403.3	Apply pump	3 ▾	3 ▾	3 ▾	2 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
PCCCS403.4	Analyze difi	3 ▾	3 ▾	3 ▾	2 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
PCCCS403.5	Analyze the	3 ▾	3 ▾	3 ▾	2 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
PCCCS403.6	Interpret th	3 ▾	2 ▾	3 ▾	2 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
Average		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.

5 . course name : C3PCCCS502

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	P
PCCCS502.1	Understand	3 ▾	1 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
PCCCS502.2	Apply differ	2 ▾	3 ▾	3 ▾	1 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
PCCCS502.3	Identify diff	3 ▾	3 ▾	3 ▾	2 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
PCCCS502.4	Analyze se	2 ▾	3 ▾	3 ▾	2 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
PCCCS502.5	Understand	2 ▾	3 ▾	3 ▾	2 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3

Average		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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6 . course name : C3PCCCS601

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	P
PCCCS601.1	Understand	3 ▾	- ▾	3 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
PCCCS601.2	Create the	3 ▾	2 ▾	- ▾	- ▾	3 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
PCCCS601.3	Apply data	3 ▾	2 ▾	- ▾	2 ▾	3 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
PCCCS601.4	Analyze the	3 ▾	3 ▾	3 ▾	2 ▾	2 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
PCCCS601.5	Evaluate th	3 ▾	2 ▾	2 ▾	3 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
Average		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

7 . course name : C4PECCS701E

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	P
PECCS701E.1	Understand	3 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
PECCS701E.2	Analyze the	- ▾	3 ▾	2 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
PECCS701E.3	Evaluate, s	- ▾	- ▾	2 ▾	2 ▾	2 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
PECCS701E.4	Understand	2 ▾	2 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	2
PECCS701E.5	Explore De	2 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
Average		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

8 . course name : C4PECCS801E

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	P
PECCS801E.1	Understand	3 ▾	- ▾	- ▾	- ▾	3 ▾	3 ▾	3 ▾	- ▾	- ▾	- ▾	3
PECCS801E.2	Determine i	- ▾	- ▾	- ▾	- ▾	2 ▾	- ▾	- ▾	- ▾	- ▾	3 ▾	3
PECCS801E.3	Use device	3 ▾	- ▾	3 ▾	- ▾	2 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
PECCS801E.4	Apply IoT ir	- ▾	2 ▾	3 ▾	- ▾	3 ▾	3 ▾	- ▾	- ▾	- ▾	- ▾	3
PECCS801E.5	Explain var	3 ▾	- ▾	- ▾	- ▾	1 ▾	- ▾	- ▾	- ▾	- ▾	- ▾	3
Average		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1 . Course Name : C2BSM101

Course
BSM101.1
BSM101.2
BSM101.3
BSM101.4
BSM101.5
BSM101.6
Average

2 . Course Name : C2ESCS201

Course
ESCS201.1
ESCS201.2
ESCS201.3
ESCS201.4
ESCS201.5
ESCS201.6
Average

3 . Course Name : C3PCCCS301

Course
PCCCS301.1
PCCCS301.2
PCCCS301.3
PCCCS301.4
PCCCS301.5
Average

4 . Course Name : C3PCCCS403

Course
PCCCS403.1
PCCCS403.2
PCCCS403.3
PCCCS403.4
PCCCS403.5
PCCCS403.6
Average

5 . Course Name : C3PCCCS502

Course
PCCCS502.1
PCCCS502.2
PCCCS502.3
PCCCS502.4
PCCCS502.5

Average

6 . Course Name : C3PCCCS601

Course
PCCCS601.1
PCCCS601.2
PCCCS601.3
PCCCS601.4
PCCCS601.5
Average

7 . Course Name : C4PECCS701E

Course
PECCS701E.1
PECCS701E.2
PECCS701E.3
PECCS701E.4
PECCS701E.5
Average

8 . Course Name : C4PECCS801E

Course
PECCS801E.1
PECCS801E.2
PECCS801E.3
PECCS801E.4
PECCS801E.5
Average

1.5 Program Articulation Matrix (5)

Program Articulation Matrix
(10)

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7
BS-PH101	2	1	1	1	PO5	PO6	PO7
BS-M101	3	3	3	3	1.5	1.3	PO7
ES-EE101	3	3	1.4	2	PO5	1	PO7
BS-PH191	1	2	PO3	1	PO5	PO6	2
ES-EE191	3	2.2	1.7	2	1	1	PO7
ES-ME192	3	1	1	1	1	1	1
BS-CH201	3	2.2	1.2	1.2	PO5	2	PO7
BS-M201	3	3	3	3	1.5	1	PO7
HM-HU201	2.5	2.3	2.3	1.7	1.2	1.2	1.7
BS-CH291	3	2.2	PO3	1.2	PO5	1.2	PO7
ES-ME291	3	1	1	1	1	1	1
HM-HU291	2.17	2.17	2	2.17	1.3	1.2	1.7
ES-CS201	3	3	3	3	PO5	PO6	PO7
ES-CS291	3	3	3	3	PO5	PO6	PO7
PCC-CS301	3	2.6	2.6	2.6	PO5	1	PO7
PCC-CS391	3	2	3	2	PO5	PO6	PO7
PCC-CS302	3	2	2	PO4	2	PO6	PO7
PCC-CS392	3	1	3	PO4	2	PO6	PO7
PCC-CS393	3	2	2	1	2	PO6	PO7
ESC 301	3	2	2.3	2.5	PO5	PO6	PO7
ESC 391	PO1	2	3	PO4	PO5	PO6	PO7
BSC 301	3	3	3	3	1.5	1	PO7
HSMC 301	PO1	1	PO3	PO4	PO5	2	PO7
PCC-CS401	3	3	3	3	1.7	1.4	PO7
PCC-CS402	3	2	2	2	PO5	PO6	PO7
PCC-CS492	2.8	2.8	2.5	2.5	1	PO6	PO7
PCC-CS403	3	2.66	3	2	PO5	PO6	PO7
PCC-CS404	2.75	2.8	2.5	2.5	1	PO6	PO7
PCC-CS494	3	2.5	2.5	3	1	PO6	PO7
BSC401	1	1	1	PO4	3	2.25	PO7
MC401	1	PO2	PO3	PO4	PO5	2	2
PCC-CS501	3	2.8	3	3	2	PO6	PO7
PCC-CS502	2.4	2.6	3	1.75	PO5	PO6	PO7
PCC-CS592	2.2	2.8	3	2.5	2	PO6	PO7
PCC-CS503	2.3	2.3	2.2	2	2.3	1.5	1
PCC-CS593	2	2.8	2.16	1	2.7	2	1
PEC-IT 501B	2.3	2.7	3	1.8	PO5	PO6	PO7
ESC501	2.5	2	2.25	PO4	3	PO6	PO7
ESC591	3	2.33	2.33	PO4	3	PO6	PO7
HSMC-501	1.6	PO2	1.6	2.8	PO5	1.8	PO7
PCC-CS601	3	2.25	2.7	2.33	2.7	3	PO7
PCC-CS691	2.25	2.25	3	3	3	2.2	PO7
PCC-CS602	2.16	2.16	3	2.33	3	PO6	PO7
PCC-CS692	2.2	2.2	2.6	2.6	3	2.2	PO7
PEC-IT601A	3	2.4	2.4	2.4	1.2	1	1
PEC-IT602B	2	3	3	2	2	PO6	PO7

OEC-IT601A	3	3	3	3	1.5	1.3	PO7
PROJ-CS601	3	3	3	3	3	1.8	3
PEC-CS701E	2.3	2.5	2	2	2	PO6	PO7
PEC-CS702E	3	3	3	3	PO5	3	3
OEC-CS701A	3	3	3	3	1.66	1.2	PO7
HSMC701	1.6	1.8	1.8	1.6	1.6	1	1.4
PROJ-CS781	2	3	3	3	1	3	2.4
PEC-CS801E	3	2	3	PO4	1.5	3	3
OEC-CS801E	3	2.25	3	2	3	2	3
OEC-CS802A	3	1.5	1.33	PO4	1	3	PO7
PROJ-CS881	2	2	3	1	3	2.5	2.75

Course Code
BSC 301
BSC401
BS-CH201
BS-CH291
BS-M101
BS-M201
BS-PH101
BS-PH191
ESC 301
ESC 391
ESC501
ESC591
ES-CS201
ES-CS291
ES-EE101
ES-EE191
ES-ME192
ES-ME291
HM-HU201
HM-HU291
HSMC 301
HSMC-501
HSMC701
MC401
OEC-CS701A
OEC-CS801E
OEC-CS802A
OEC-IT601A
PCC-CS301
PCC-CS302
PCC-CS391
PCC-CS392
PCC-CS393
PCC-CS401
PCC-CS402

PCC-CS403
PCC-CS404
PCC-CS492
PCC-CS494
PCC-CS501
PCC-CS502
PCC-CS503
PCC-CS592
PCC-CS593
PCC-CS601
PCC-CS602
PCC-CS691
PCC-CS692
PEC-CS701E
PEC-CS702E
PEC-CS801E
PEC-IT 501B
PEC-IT601A
PEC-IT602B
PROJ-CS601
PROJ-CS781
PROJ-CS881

2 OUTCOME-BASED TEACHING LEARNING (120)

2.1 Describe Processes Followed to Ensure Quality of Teaching & Learning (20)

2.1. Describe Processes Followed to Ensure Quality of Teaching & Learning (20)

The institute (Dr. B. C. Roy Engineering College, Durgapur) and the programs are affiliated to a University, Maulana Abul Kalam Azad University of Technology, West Bengal. The institute follows the scheme and syllabus of the affiliating university. In this regard, the Department Academic Committee (DAC) is framed, which comprises the Head of the Department and faculty members. The syllabus provides opportunities for students to acquire appropriate knowledge, skill, and attitude. It also helps to identify the curriculum gaps.

This process involves the following set of activities:

- The curriculum maintains the balance in the composition of basic science, humanities, and professional courses and their distribution in core and elective courses. The university frames and reviews the curriculum from time to time by the board of studies.
- Based on the university curriculum, each faculty frames the course outcomes and assigns a cognitive level for each course outcome according to Bloom's taxonomy. The COs are mapped with the corresponding POs and PSOs based on correlation levels (1- slightly, 2- moderate, 3- substantially). This also identifies the extent of correlation between the university course-wise curriculum for attaining the POs & PSOs.
- Program curriculum compliance is verified by creating the CO-PO matrix information of all courses. Mapping helps to identify whether the curriculum meets the requirements. At the same time, the level of attaining the POs by the curriculum. The same process is extended to the COs-PSOs matrix. From mapping, curricular gaps can be identified. Identify the POs and PSOs which are not mapped in the program. Discuss/ suggest possible ways to fulfill the identified gaps in the form of workshops/ seminars/ experiments/invited talks/guest lecturers/expert lectures/ industrial visits etc.
- The POs and PSOs attainment is calculated considering cumulative internal examination and semester-end examination. Feedback are also collected from external stakeholders like alumni, graduates, and employers for indirect attainment of POs and PSOs.

The Process for attaining the Program Outcomes (PO) and Program Specific Outcomes (PSO) is shown in Fig.2.1.1.

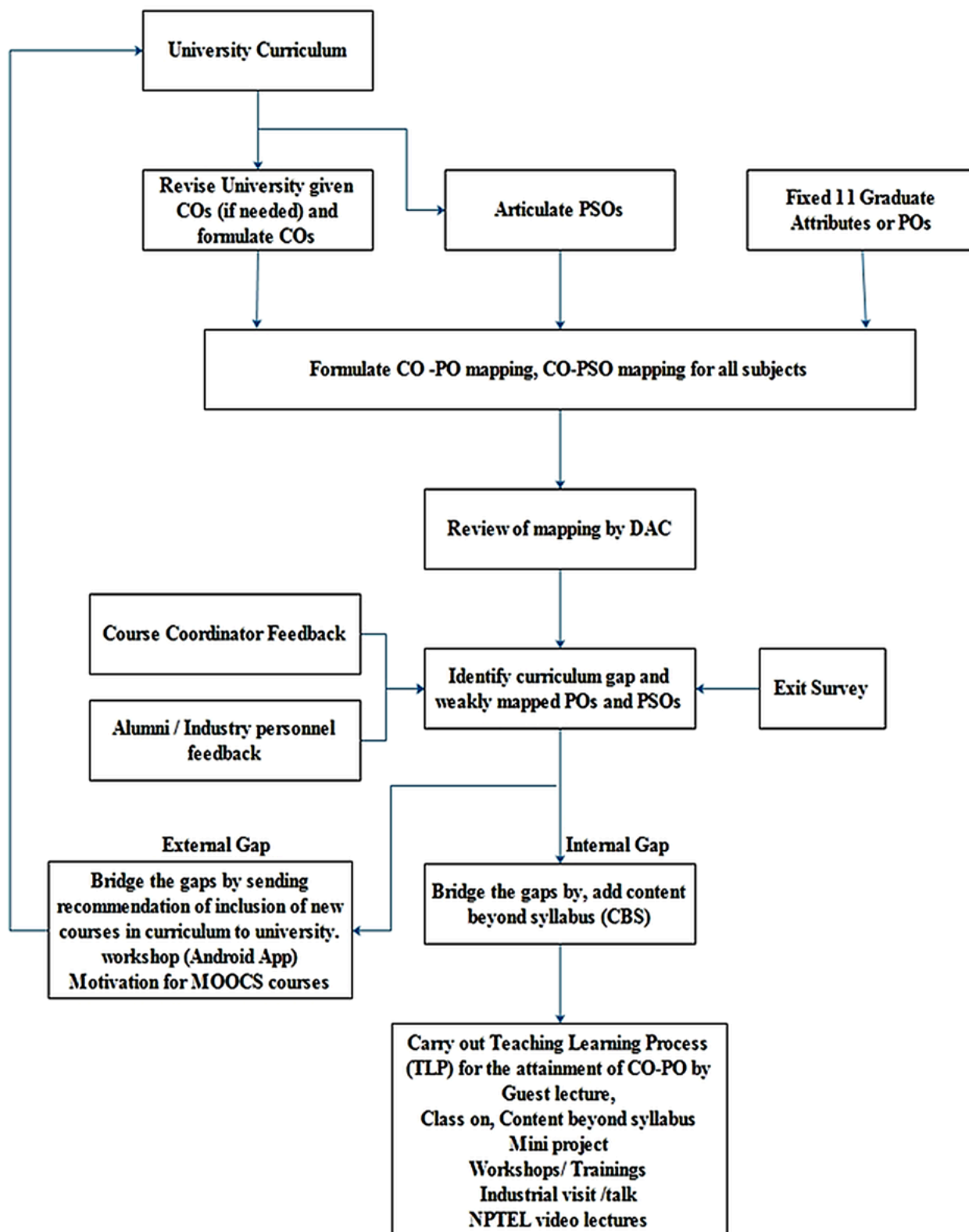


Fig.2.1.1: Process for attaining the Program Outcomes (POs) and Program Specific Outcomes (PSOs)

A. Adherence to the Academic Calendar (02)

The teaching-learning process is a vital part of outcome-based education. It helps students to gain knowledge, skills, and attitude. The improvement in the quality of the academic calendar, allocation of courses as well as batches, teaching plans, and student feedback. The Teaching & Learning process adherence to the academic calendar:

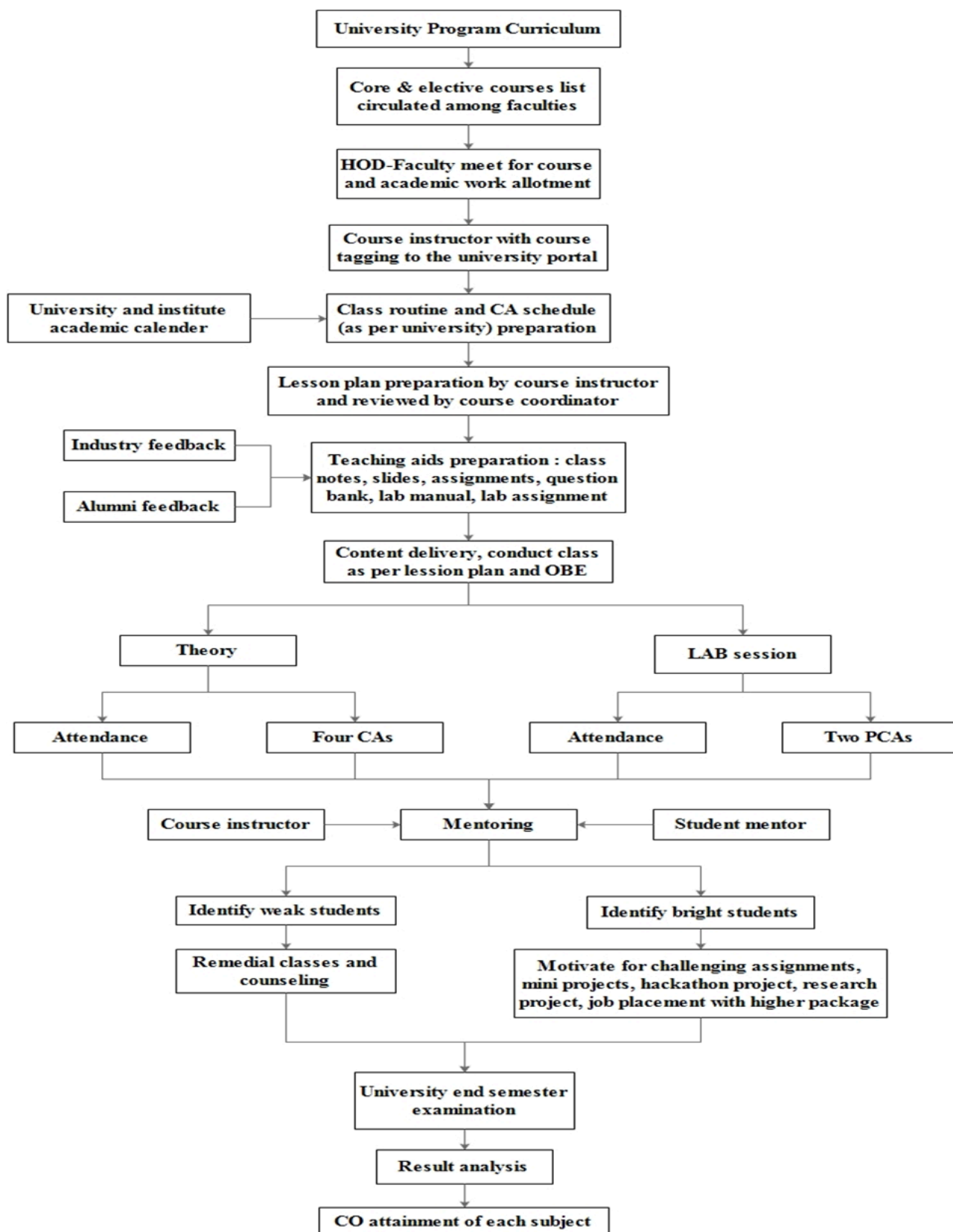


Fig. 2.1.2: Teaching & Learning process adherence to academic calendar

The MAKAUT academic calendar for the academic session 2025-26 is given in Fig. 2.1.3.

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL**Provisional Academic Calendar for Academic Session 2025-26 for Affiliated Colleges**

Activity	Start Date	End date
Odd Semester 2025-26		
Commencement of Academic Programs (3 rd , 5 th , 7 th and 9 th Sem)	16.07.2025	
Enrollment of students (3 rd , 5 th , 7 th and 9 th Sem)	21.07.25	30.07.25
Commencement and Enrollment of students of 1 st semester	As per admission dates.	
Submission of CA1	12.08.25	16.08.25
Submission of CA2 & PCA1	17.09.25	20.09.25
Submission of CA3	13.10.25	18.10.25
Submission of CA4 & PCA 2	10.11.25	15.11.25
Pre Examination activities (Form fill-up etc) Odd Sem 2025-26	17.11.25	27.11.25
Theory Examinations for odd semester 2025-26	28.11.25	13.12.25
Practical, Sessional and Viva-Voce examinations and marks submission	15.12.25	20.12.25
Even Semester 2025-26		
Commencement of Academic Programs (2 nd , 4 th , 6 th , 8 th , 10 th Sem)	06.01.2026	
Enrollment of students	12.01.26	20.01.26
Submission of CA1 (all even semesters)	02.02.26	07.02.26
Submission of CA2 & PCA1 (all even semesters)	02.03.26	07.03.26
Submission of CA3 (all even semesters)	06.04.26	11.04.26
Submission of CA4 & PCA 2 (all even semesters)	04.05.26	09.05.26
Pre Examination activities (Form fill-up etc) Even Sem 2025-26	11.05.26	21.05.26
Theory Examinations for even semester 2025-26	22.05.26	13.06.26
Practical, Sessional and Viva-Voce examinations and marks submission	15.06.26	20.06.26
Dates for MAR and MOOCs		
Dates of MAR upload by the colleges (odd semester)	01.08.25	31.12.25
Dates of MAR upload by the colleges (even semester)	01.02.26	31.05.26
Dates of MOOCs upload by the students and verification by the colleges for Honours cases	01.08.25	31.05.26
MOOCs records for credit transfer	Within the end semester exams	
Last dates for results data uploading by the Autonomous Colleges		
Odd Semester results 2025-26	30.04.2026	
Even Semester results 2025-26	31.10.2026	

Dates of CAs mentioned above are for marks/data/documents upload dates but assessments could be conducted on continuous basis based on academic plan of the institute and to be uploaded in the portal within the above dates.

*Dates are tentative and may change based on circumstances.

Fig. 2.1.3: MAKAUT academic calendar for the academic session 2025-26

The MAKAUT updated academic calendar for Even semester of the academic session 2025-26 is given in Fig. 2.1.4.

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL

Updated Academic Calendar for Even Semester 2025-26 for Affiliated Colleges (based on obtaining views of the stake holders)

[Download the Guidelines](#)
[Download the Syllabus](#)
[Download the Scheme](#)
[Download the Project](#)

Activity	Start Date	End date
Even Semester 2025-26 [all 2nd sem and 4th Sem (B Tech and B Pharm)]: Odd sem P2		
Commencement of Academic Programs (2 nd , 4 th Sem)	30.03.2026	
Enrollment of <u>regular</u> and <u>back paper</u> students	01.04.26	08.04.26
Submission of CA2 & PCA1 (all even semesters)	27.04.26	30.04.26
Submission of CA3 (all even semesters)	20.05.26	25.05.26
Submission of CA4 & PCA 2 (all even semesters)	08.06.26	13.06.26
Pre Examination activities (Form fill-up etc) Even Sem 2025-26	16.06.26	25.06.26
Theory Examinations for even semester 2025-26	29.06.26	15.07.26
Practical, Sessional and Viva-Voce examinations and marks submission	17.07.26	22.07.26
Even Semester 2025-26 [Except all 2nd sem & 4th sem (B Tech, B Pharm)]: Odd sem P1		
Commencement of Academic Programs (4 th , 6 th , 8 th , 10 th Sem)	06.01.2026	
Enrollment of students	12.01.26	20.01.26
Submission of CA1 (all even semesters)	02.02.26	07.02.26
Submission of CA2 & PCA1 (all even semesters)	02.03.26	07.03.26
<u>Enrollment of back paper students</u>	01.04.26	08.04.26
Submission of CA3 (all even semesters)	27.04.26	05.05.26
Submission of CA4 & PCA 2 (all even semesters)	08.06.26	13.06.26
Pre Examination activities (Form fill-up etc) Even Sem 2025-26	16.06.26	25.06.26
Theory Examinations for even semester 2025-26	29.06.26	15.07.26
Practical, Sessional and Viva-Voce examinations and marks submission	17.07.26	22.07.26
Dates for MAR and MOOCs		
Dates of MAR upload by the colleges (even semester)	01.02.26	31.05.26
Dates of MOOCs upload by the students and verification by the colleges for Honours cases	01.08.25	31.05.26
MOOCs records for credit transfer	Within the end semester exams	
Dates of CAs mentioned above are for marks/data/documents upload dates but assessments could be conducted on continuous basis based on academic plan of the institute and to be uploaded in the portal within the above dates. *Dates are tentative any may change based on circumstances.		
<u>The project/training/internship/joining for different batches need to be planned by the respective colleges in a flexible manner so that the above academic plan could be implemented smoothly.</u>		

Fig. 2.1.4: MAKAUT updated academic calendar of even semester for academic session 2025-26

The College academic calendar for odd sem of academic session 2024-25 is given in Fig. 2.1.5.

DR B C ROY ENGINEERING COLLEGE, DURGAPUR							
PROVISIONAL ACADEMIC CALENDAR (JULY 2024-JUNE 2025) AS PER MAKAUT ACADEMIC CALENDAR 2024-25							
MONTH	MON	TUES	WED	THU	FRI	SAT	SUN
JULY 24	1	2	3	4	5	6	7
	8	9	10	11	12	13	14
	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
	29	30	31				
AUG 24				1	2	3	4
	5	6	7	8	9	10	11
	12	13	14	15	16	17	18
	19	20	21	22	23	24	25
	26	27	28	29	30	31	
SEPT 24							1
	2	3	4	5	6	7	8
	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
OCT 24							30
	1	2	3	4	5	6	7
	8	9	10	11	12	13	14
	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
NOV 24	29	30	31				
					1	2	3
	4	5	6	7	8	9	10
	11	12	13	14	15	16	17
	18	19	20	21	22	23	24
DEC 24	25	26	27	28	29	30	
							1
	2	3	4	5	6	7	8
	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
JAN 25	23	24	25	26	27	28	29
	30	31					

Principal
Dr. B. C. Roy Engineering College
DURGAPUR

Fig. 2.1.5: College Academic calendar for odd semester of academic session 2024-25

The College academic calendar for even sem of academic session 2024-25 is given in Fig.2.1.6.

DR B C ROY ENGINEERING COLLEGE, DURGAPUR							
PROVISIONAL ACADEMIC CALENDAR (JULY 2024-JUNE 2025) AS PER MAKAUT ACADEMIC CALENDAR 2024-25							
MONTH	MON	TUES	WED	THU	FRI	SAT	SUN
ACADEMIC EVENTS/HOLIDAYS							
JAN'25	6	7	8	9	10	11	12
	13	14	15	16	17	18	19
	20	21	22	23	24	25	26
	27	28	29	30	31		
FEB'25						1	2
	3	4	5	6	7	8	9
	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
MARCH'25	24	25	26	27	28		
						1	2
	3	4	5	6	7	8	9
	10	11	12	13	14	15	16
APRIL'25	17	18	19	20	21	22	23
	24	25	26	27	28	29	30
	31						
MAY'25							
JUNE'25							

06.01.2025-COMMENCEMENT OF THE ACADEMIC PROGRAMS(2ND/4TH/6TH/8TH SEMESTER)

10.01.2025-17.01.2025-ENROLLMENT OF THE STUDENTS OF 1ST,2ND, 3RD & 4TH YEAR

21.01.2025-22.01.2025-ANNUAL SPORTS /23.01.2025-NITAI SUBHASH CHANDRA ROSE BIRTHDAY

27.01.2025-28.01.2025-TECH FEST /29.01.2025-30.01.2025-CULTURAL FEST

01.02.2025-STARTING DATE FOR THE MAR/MOOS UPLOAD BY COLLEGE AND STUDENTS

03.02.2025-SARASWATI PUJA/05.02.2025-14.02.2025-CRICKET TOURNAMENT /03.02.2025-07.02.2025-SUBMISSION OF CA1 MARKS

03.03.2025-07.03.2025-BASKET AND VOLLEYBALL TOURNAMENT /03.03.2025-07.03.2025-SUBMISSION OF CA 2 AND PCA 1

14.03.2025-DOLATRA

31.03.2025-IDUL FITR

03.04.2025-07.04.2025-SUBMISSION OF CA 3

14.04.2025-17.04.2025-FAREWELL FOR 2025 PASSOUT BATCH/14.04.2025-AMBEDKAR JAYANTI/18.04.2025-GOOD FRIDAY

01.05.2025-MAY DAY/08.05.2025-RABINDRA JAYANTI

05.05.2025-10.05.2025-SUBMISSION OF CA 4 AND PCA 2

12.05.2025-BUDDHA PURNIMA/13.05.2025-20.05.2025-FORM FILL UP FOR EVEN SEMESTER EXAMINATION

23.05.2025-10.06.2025-THIORY EXAMINATIONS EVEN SEM 2025

16.06.2025-21.06.2025-PRACTICAL SESSIONAL EXAMINATION (EVEN SEM) AND MARKS SUBMISSION

23.06.2025-SEMESTER BREAK

GENERAL HOLIDAY

NB ACT OR MAKAUT OR GOVT HOLIDAY

UNIVERSITY ACTIVITIES

COLLEGE EVENTS

NB THE SCHEDULE MAY CHANGE ACCORDING TO THE UPDATED NOTIFICATION FROM MAKAUT OR GOVERNMENT FROM TIME TO TIME

Principal
Dr. B. C. Roy Engineering College
DURGAPUR

Fig. 2.1.6: College Academic calendar for even semester of academic session 2024-25

B. Pedagogical Initiatives (05)

The pedagogical methods used by the faculty members are enlisted in Fig. 2.1.7.

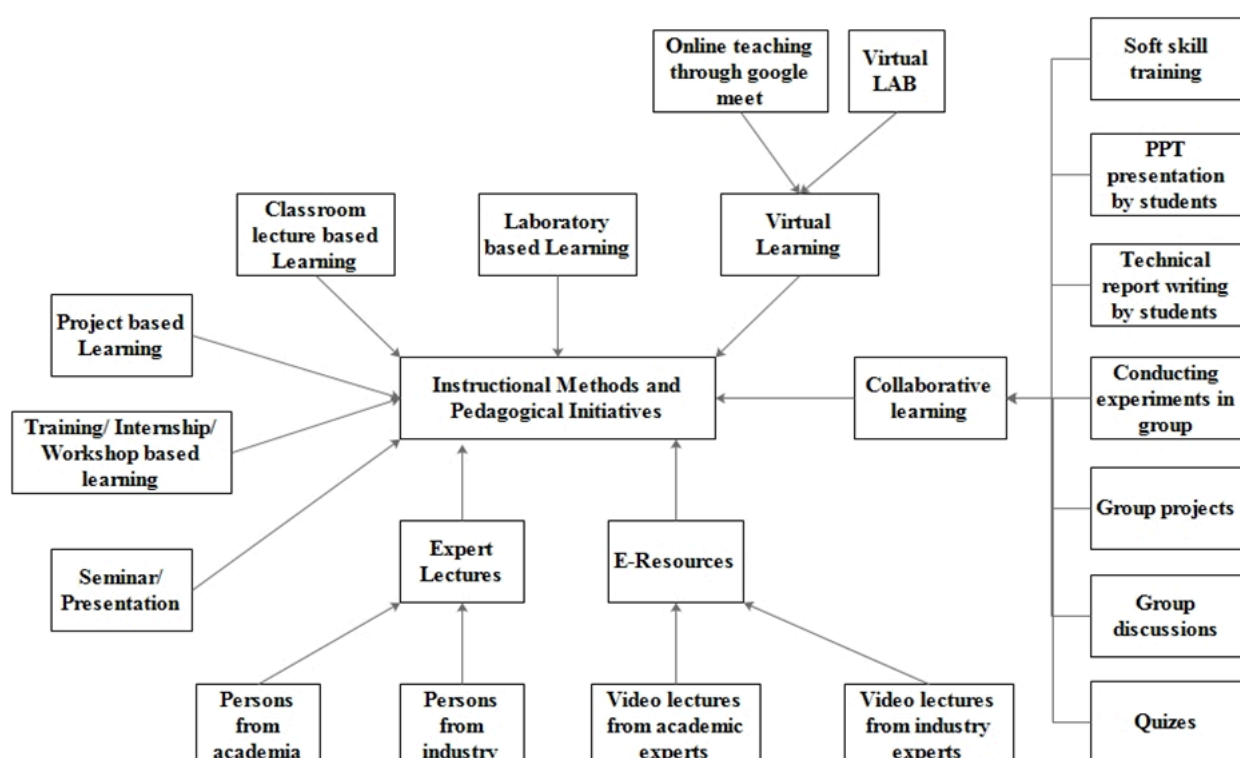


Fig. 2.1.7: Instructional methods using pedagogical initiatives

Measures for improving quality of Teaching & Learning Quality of Class Room Teaching

- Various resources are provided in the class rooms such as White board, Projector and AirCondition.
- Different teaching methodologies are adopted to improve the learning process such as group discussions, demonstrations, videos and simulations as shown in I
- Resource persons from industries are invited to give expert lectures.
- Course materials are given to the students for their benefits.
- Teaching methodologies are monitored continuously by HoD.

Conduct Experiments and Continuous Assessment in Laboratory

- Laboratory courses are handled by two faculty members for a group of 30 to 35 students.
- Laboratory Manual is designed based on MAKAUT University curriculum. It is available in laboratory and it is circulated among the students.
- Continuous evaluation of student performance has been done for every experiment in the laboratory as shown in Fig. 2.2.1.2.
- Internal Practical Examination is conducted at the end of the semester before the commencement of University Examination.
- Student's performance is periodically evaluated based on their completion of observation, lab report, quizzes and viva voce followed by University Examination

Student Feedback of Teaching Learning Process and Action Taken

- Student feedback is collected from the students for all courses.
- Students Feedback is collected once in a semester.
- HoD reviews the feedbacks and discusses the remedial measures to follow up with the course instructors.
- Remedial measures are incorporated in the existing teaching learning process.
- HoD personally discuss with those Faculty Members who are having comparatively lower feedback from students and advised the Faculty Member to improv

C. Support students based on their ability (04)

The process to Support Weak Students and Encourage Bright Students is given in Fig. 2.1.8:

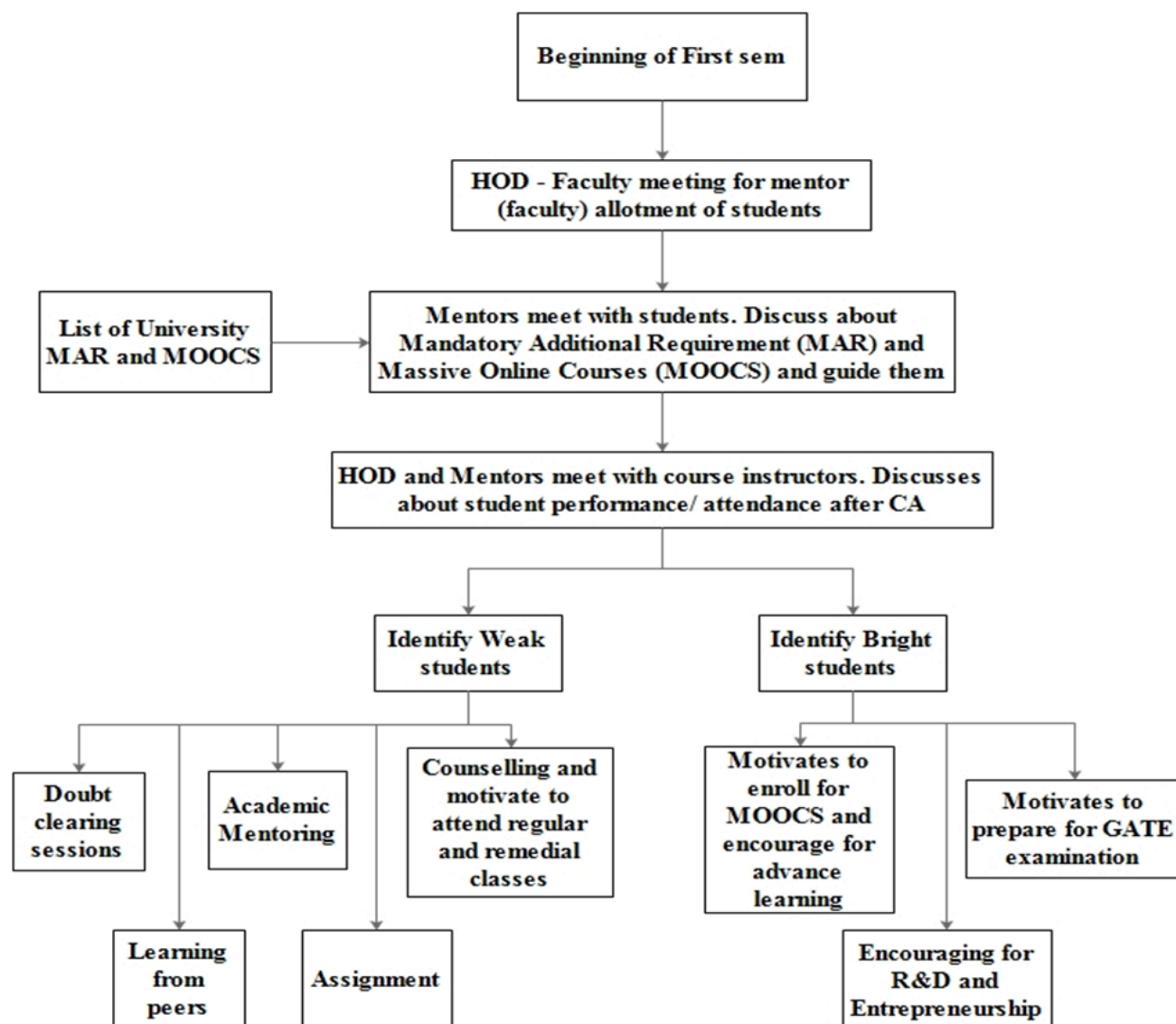


Fig. 2.1.8: Methodologies to Support Weak Students and Encourage Bright Students through Mentoring

Support provided to weak students

- Academic mentors: The identified weak students are counseled and special care is taken to improve their academic performances as shown in Fig. 2.2.1.4. Well Ten to Twenty-Five students are allotted to each mentor. The aim of the mentoring system is to identify their issues and make them perform better in the upcoming exams. Mentors counsel the students twice in a semester besides need-based counseling.
- Remedial classes: Remedial classes are arranged before the Sessional Examination and University Examinations to help the weak students and make them perform better in the sessional and University examination.
- Learning from peers: Peer learning is also emphasized in remedial classes, where the bright students take care of few weak students.
- Monitoring student's progress: Mentors are used to track these weak students' progress considering CAs and PCAs of all subjects and labs.
- Group studies: Weak students are encouraged for group studies with few good students.
- Personalized learning plans: Sometimes few weak students are guided with personalized learning plans considering few parameters such as the ability to understand a problem, ability to remember, patience level during preparing a lesson etc.
- Online courses: As this new generation is comfortable with virtual learning, that's why they are also suggested to follow the video lectures and study materials of professors from distinguished colleges or universities.

Initiatives taken for bright students

- **Preparation for Competitive examination:** Bright students are encouraged to get qualified for Competitive Examinations of National and International repute like CAT, GRE etc., as shown in Fig. 2.2.1.4.

- **Better placement:** Bright Students are encouraged for grabbing campus placements opportunities in reputed companies with Higher Packages during on-campus drive. Encourage to get offers from various Industry Initiated Placement drive/training like HackWithInfy, InfyTQ, Cognizant Digital Nurture etc.,
- **Encouraging for research and entrepreneurship:** Bright students (students' who have same area of interest with faculty) are encouraged to be involved in R that enhance their research aptitude/knowledge. Students, who have innovative entrepreneurial ideas, they are advised to actively participate in the lectures conducted by inviting the successful industry people and entrepreneurs.
- **Advance courses:** Bright students are advised to go through the advance courses with regular curriculum. They are also advised to do more advance project i.e. application projects.
- **Institutional membership:** Few bright students are prioritized for leadership opportunities for different student memberships.
- **Internship opportunities:** Bright students are also allotted for different higher internship opportunities, awarded with scholarships and awards for their outstanding performances.
- **Research publication:** They are exposed with more research opportunities to produce productive projects as well as good publications in different conferences
- **B.Tech. with Honours:** Bright student are encouraged to undertake additional courses as mandated by the university to get a B.Tech Honours Degree. A student allowed to opt for the Honours scheme only if he/she has a minimum 20 credit points additionally during the program through MOOCs courses.

Impact Analysis on Supporting System of Weak Students

The following support mechanisms were strengthened:

- Faculty mentoring system
- Slow learner support sessions
- Advanced learner enrichment programs
- Coding practice platforms
- Laboratory open access hours
- Technical clubs and student chapters
- Continuous counseling and academic guidance

The follow up of the above measures with respect to weak students, reflects gradual improvement in their academics and able to get job through campus recruitment session wise.

Table 2.1.1: Placement of weak students for session 2024-25

University Roll No.	Full Name	Year of Passing	Company Name	Package
12000121133	ANUBHAB MAJI	2025	Genpact India Ltd.	3.60
12000121050	RAJDEEP BERA	2025	TCS Ninja	3.46
12000121042	MANAS KUMAR DAS	2025	Wayspire Ed-Tech Pvt. Ltd.	7.00
12000121041	OISHI SEN	2025	Genpact India Ltd.	3.60
12000122136	DEBRIK CHAKRABORTY	2025	LTI Mindtree	4.05

Table 2.1.2: Placement of weak students for session 2023-24

University Roll No.	Full Name	Year of Passing	Company Name	Package
12000120046	SOUMYADEEP CHAKRABORTY	2024	JSW	6.50
12000120082	SHAHANAWAZ AKHTAR	2024	Genpact	3.60
12000120060	Vishal Shaw	2024	TCS Ninja	3.36

Table 2.1.3: Placement of weak students for session 2022-23

University Roll No.	Full Name	Year of Passing	Company Name	Package
---------------------	-----------	-----------------	--------------	---------

12000119006	Anubrata Ghosh	2023	British Telecom	2.79 LPA
12000119012	Suvrangsuz Hazra	2023	Cognizant	4.0 LPA
12000119021	Anwesha Samanta	2023	IndusNet Technology	5.0 LPA

Impact Analysis on Supporting System for Bright Students:

The supporting system for bright students helps them in achieving good placement opportunities with higher packages, admissions for higher studies in Top ranked . Also, they got job with higher package through campus recruitment as shown in Table 2.1.4, Table 2.1.5, and Table 2.1.6 sessionwise. Furthermore, the support system helps them in competitive exams like GATE, CAT and GRE.

Table 2.1.4: Placement of bright students with higher package for session 2024-25

University Roll No.	Full Name	Year of Passing	Company Name	Package
12000121034	SAGNIK SANYAL	2025	TECHRAR (Saudi Arabia)	19.14
12000121036	JOYDEEP MALLICK	2025	TCS Prime	9.00
12000121123	Aditi Chatterjee	2025	mThree	9.00
12000121042	MANAS KUMAR DAS	2025	Wayspire Ed-Tech Pvt. Ltd.	7.00
12000121003	Abhishek Dasgupta	2025	Flying raccoon Pvt. Ltd. (Internship)	6.60

Table 2.1.5: Placement of bright students with higher package for session 2023-24

University Roll No.	Full Name	Year of Passing	Company Name	Package
12000120092	Niwesh Kumar	2024	COZEVA	12.00
12000120073	Sumit Dhar	2024	TCS Prime	9.00
12000120063	Shagufa Ali Haider	2024	Capgemini	7.50
12000120104	Nivedita Paul	2024	Capgemini	7.50
12000120039	Gouranga Kamilya	2024	TCS Digital	7.00

Table 2.1.6: Placement of bright students with higher package for session 2022-23

University Roll No.	Full Name	Year of Passing	Company Name	Package
12000119011	ARPAN CHOUDHURY	2023	Deputy Field Officer_ Technical	15.00
12000119069	Sayan Banerjee	2023	South Indian Bank	10.00
12000119031	Swagata Roy	2023	HSBC	9.00
12000219057	Shruti Agarwala	2023	HSBC	9.00
12000119104	MONIDEPA GHOSH	2023	NRI Fintech	7.63

D. Quality of Classroom Teaching (04)

Measures for improving quality of Teaching & Learning

- Various resources are provided in the class rooms such as White board, Projector and AirCondition.
- Different teaching methodologies are adopted to improve the learning process such as group discussions, demonstrations, videos and simulations as shown in I
- Resource persons from industries are invited to give expert lectures.
- Course materials are given to the students for their benefits.
- Teaching methodologies are monitored continuously by HoD.

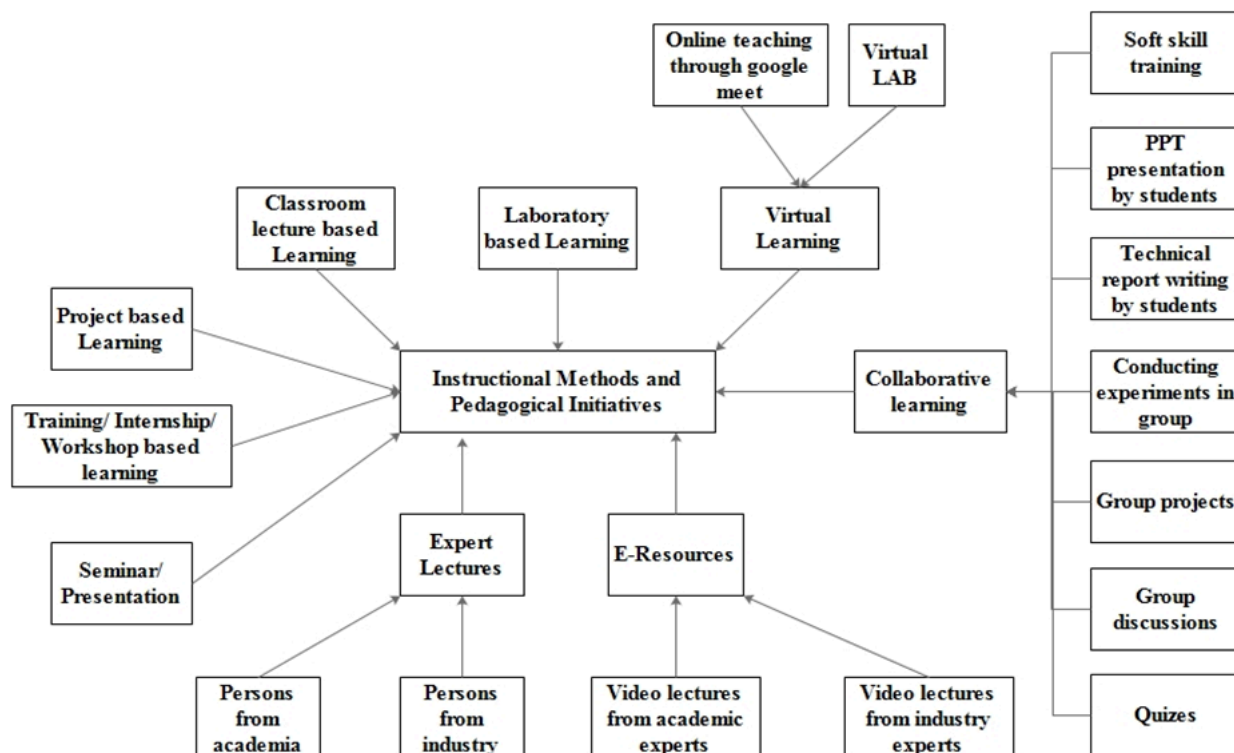


Fig. 2.1.9: Instructional methods of Classroom Teaching and Conduct of Experiments

E. Conduct of Experiments (05)

Measures for improving quality of Teaching & Learning

- Laboratory courses are handled by two faculty members for a group of 30 to 35 students.
- Laboratory Manual is designed based on MAKAUT University curriculum. It is available in laboratory and it is circulated among the students.
- Continuous evaluation of student performance has been done for every experiment in the laboratory as shown in Fig. 2.1.10.
- Internal Practical Examination is conducted at the end of the semester before the commencement of University Examination.
- Student's performance is periodically evaluated based on their completion of observation, lab report, quizzes and viva voce followed by University Examination.

Process for internal evaluation for quality classroom theory teaching and conducting lab experiments

The impact of measuring effectiveness in teaching is enhanced by assessing/evaluating learners. In this context, assessment/evaluation is a process of formulating the classroom and the extent to which course outcomes have been achieved. As assessment/evaluation is subsequent to teaching-learning activity, the alignment among the overall learning experience more transparent and meaningful for students. The college ensures that assessment methods are well coordinated with course outcome learning.

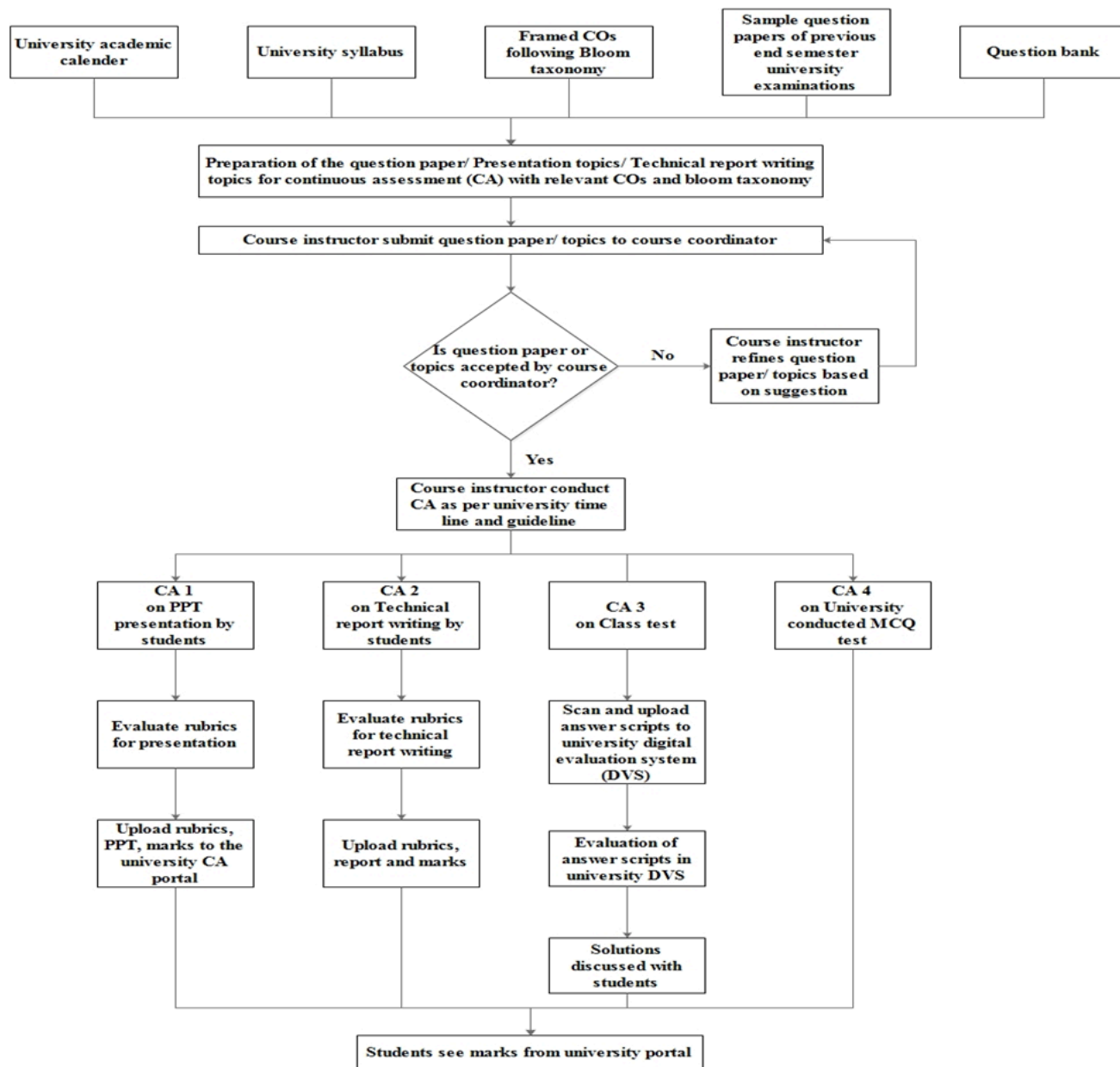


Fig. 2.1.10: Process for internal evaluation for quality classroom theory teaching and conducting lab experiments

2.2 Quality of Student Capstone Project (25)

2.2. Quality of Student Capstone Project (25)

Students undertake capstone/major projects during the VII and VIII semesters as per the university curriculum. The Department follows a structured process : monitoring, evaluation, and outcome assessment to ensure the quality and relevance of student projects.

Projects are identified based on student interest, emerging technologies, industry requirements, societal needs, and real-world applications. Faculty guides are

The projects are categorized as:

- Application-oriented projects
- Product development projects
- Research-based projects
- Review/analytical studies

During project execution, students are encouraged to consider:

- Environment and sustainability
- Safety
- Professional ethics
- Cost effectiveness
- Applicable standards

Each project is mapped with relevant POs and PSOs to ensure attainment of graduate attributes.

Continuous monitoring is carried out through:

- Regular guide-student meetings
- Periodic reviews and presentations
- Internal evaluations
- Progress documentation

Project evaluation includes assessment of problem identification, methodology, implementation, experimentation, report preparation, prototype/model demonstration projects and working models is evaluated based on innovation, functionality, sustainability, safety, ethics, standards compliance, and cost considerations.

Students are also encouraged to publish research papers and participate in project competitions, exhibitions, and innovation activities.

The overall process adopted by the Department to ensure the quality of student projects is illustrated in Fig. 2.2.1.

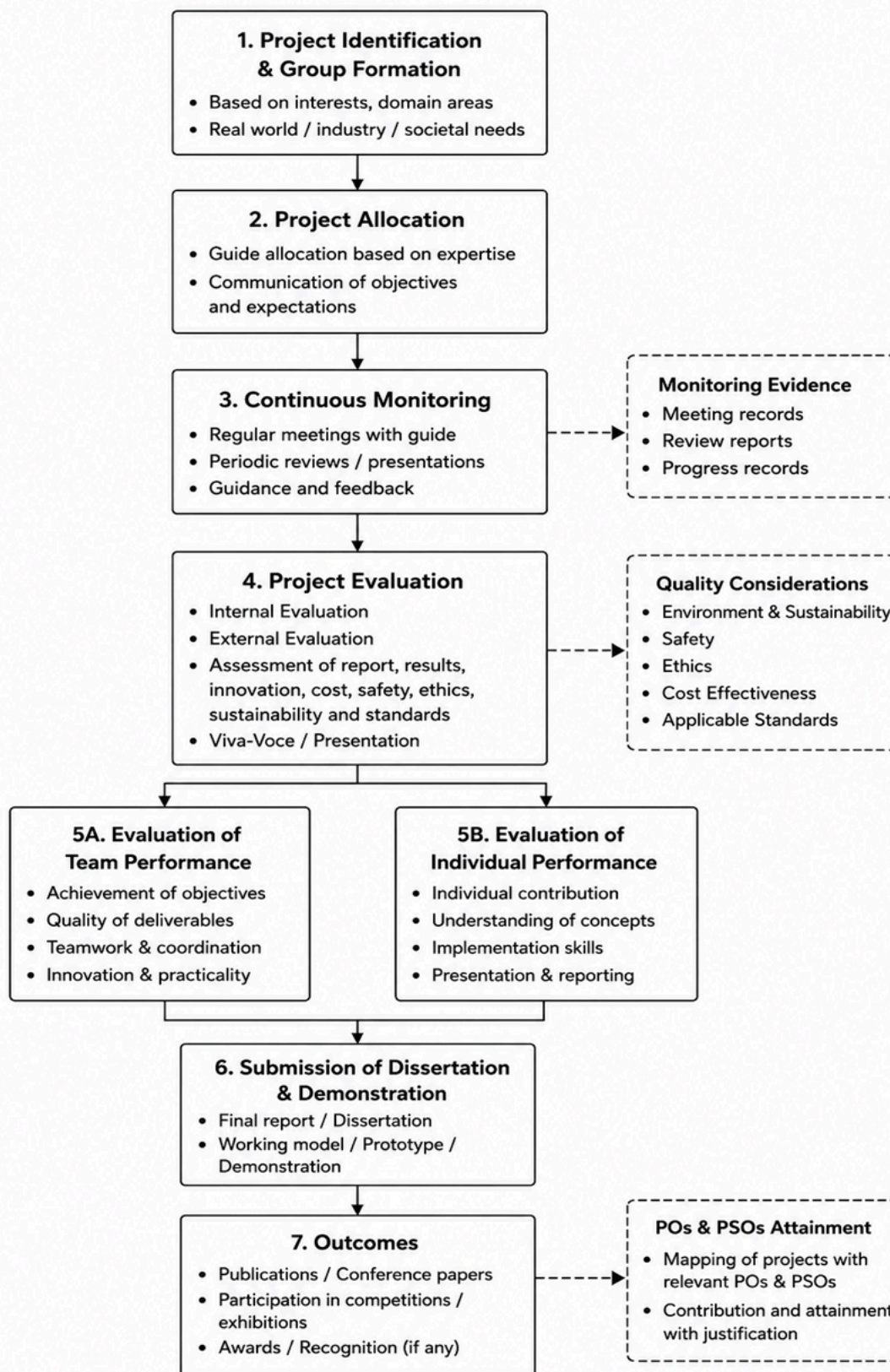


Fig. 2.2.1: Process adopted by the Department to ensure the quality of student major projects

Project Group Formation

Students are allowed to form project groups consisting of a minimum of two and a maximum of four members. In cases where students are unable to form group formation process.

A. Identification of capstone/major project and allocation of guides (05)

The Project Coordinator collects project/research domains from faculty members based on their area of expertise. The list of available domains is shared with topics according to their interests and domain preferences and approach the respective faculty members for guidance.

Project guides are allocated based on:

- Faculty domain expertise
- Nature of the project
- Student interest and project preference

The project identification and guide allocation process ensures proper alignment of projects with departmental thrust areas, emerging technologies, and progr

The project domain identification format is shown in Fig. 2.2.2.



Department of Computer Science and Engineering.
Dr. B C Roy Engineering College, Durgapur.

Project proposal format

- Project Title:**
- Name & designation of the Supervisor:**
- Details of the group members:**

Srl No.	Name	University Roll No.
- Abstract(100-150 words):**
- Outcome of your work(Put ✓):**

a) Conference publication	b) Journal Publication
c) Copyright	d) Patent

Approved by Supervisor(signature)

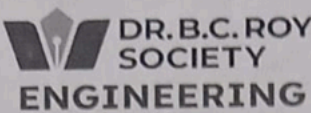
Approved by Project Coordinator(signature)

Signature of Group members (signature)

Date & time of submission

Fig 2.2.2. Project domain identification format

One sample of the project guide allotment format is shown in Fig. 2.2.3 given below:



DR. B.C. ROY SOCIETY ENGINEERING

Department of Computer Science and Engineering.
 Dr. B C Roy Engineering College, Durgapur.

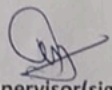
Project proposal format

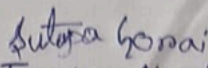
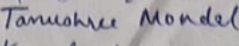
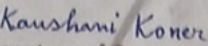
- Project Title: *Cloud-Based Intrusion Detection and Prevention System for secure Networking*
- Name & designation of the Supervisor: *Dr. Deepa Naik* *Prof. Kalpana Roy*
Assistant professor *Assistant Professor*
- Details of the group members:

Srl No.	Name	University Roll No.
1	SUTAPA GORAI	12000123115
2	TANUSHREE MONDAL	12000123120
3	KAUSHANI KONER	12000123041
- Abstract(100-150 words): *The rapid adoption of cloud computing has transformed the way organizations manage data and applications, but it has also increased exposure to sophisticated cyber threats. This project presents a Cloud-Based Intrusion Detection and Prevention System (IDS/IPS) for secure cloud networking. It monitors real-time traffic, detects threats like DDoS and unauthorized access, applies preventive measures via cloud firewalls, and offers a dashboard for live monitoring and attack visualization, ensuring scalable and resilient cloud security.*
- Outcome of your work(Put ✓):

- Conference publication ✓
 - Copyright
 - Smart India Hackathon

- Journal Publication ✓
 - Patent

Approved by Supervisor(signature) 




 Signature of Group members
 (Signature)
 15/09/2025
 4:52 pm

1

Fig. 2.2.3: Sample of the project guide allotment

B. Types and relevance of the capstone/major project and their contribution towards the attainment of POs and PSOs (06)

The knowledge through lectures in the classroom, practicals in laboratories and reference work in libraries do not expose students to real life requirements. If students involve themselves in identifying a problem, analyzing the cause, and finding the solution objectively, will have a positive impact on the students as interesting. This can be realized through a project model. The projects are classified into application, product, research, and review. The course outcomes are relevant to the POs and PSOs are prepared for project evaluation.

The projects and their contribution towards the attainment of POs and PSOs are shown in Table 2.2.1 and Table 2.2.2 session-wise.

Table 2.2.1: Few Sample projects and their contribution towards the attainment of POs and PSOs for session 2024-25

Sl. No	Project Title	Name of Student	University Roll Number	Name of Project Supervisor	Domain/ Outcome	Relevance to POs and PSOs	Environment	Safety	Ethics	Cost
1	Efficient Learning in Data Scarce Environments :an Attempt with Prototypical Model Agnostic Meta Learning Mechanism	Subhayu Dutta	12000121007	Prof. Anandaprova Majumder	Artificial Intelligence & Machine Learning/Research Publications	PO1, PO2, PO4, PO5, PO9, PO10, PO12, PSO1, PSO2, PSO3	Y	Y	Y	Y
		Saptiva Goswami	12000121021							
		Sonali Debnath	12000121004							
2	Interior Design App Using Augmented Reality(AR)	Tuhin Modak	12000121095	Prof.SyedZahir Hasan	Android Based Application/AR-based Mobile Application	PO1, PO2, PO4, PO5, PO8, PO9, PO10, PO12, PSO1, PSO2, PSO3	Y	Y	Y	Y
		Sayantani Chatterjee	12000121122							
		Suvajit Garai	12000121093							
3	To Design A Fast And Accurate Segmentation Model On Ct Images Of Interstitial Lung Diseases Affected Lungs Using Deep Learning Method.	Sagnik Das	12000121082	Prof. Biswadev Goswami	AI based Medical Image processing/ Research Publications	PO1, PO2, PO4, PO5, PO8, PO9, PO10, PO12, PSO1, PSO2, PSO3	Y	Y	Y	Y
		Arghyadeep Karmakar	12000121099							
		Ronit Singha	12000121097							
4	Data Security Using Steganography	Dipanita Mallick	12000121052	Prof. Anandaprova Majumder	Cryptography & Steganography/Research Publication	PO1, PO2, PO3, PO4, PO5, PO8, PO9, PO10, PO12, PSO1, PSO2, PSO3	Y	Y	Y	Y
		Priyanka Manna	12000121056							
		Saikat Ghosh	12000121066							
		Sumit Raj	12000118017							

5	Context Identification using Passive Sensing for Smart Kitchens	Abhishek Dasgupta	12000121003	Prof. Arindam Ghosh	Internet of Things (IoT)/Smart Kitchen Monitoring Prototype	PO1, PO2, PO4, PO5, PO8, PO9, PO10, PO12, PSO1, PSO2, PSO3	Y	Y	Y	Y
		Sagnik Sanyal	12000121034							
		Joydeep Mallick	12000121036							
7	Balanced Q-Coverage Problem In Directional Sensor Networks	Debjeet Mukherjee	12000121089	Prof. Rajib Mondal	Research Analysis and Simulation/Simulation-based Research	PO1, PO2, PO3, PO5, PO8, PO9, PO10, PO12, PSO1, PSO2, PSO3, PSO4	Y	Y	Y	Y
		Indrajit Khan	12000121086							
		Jaydip Dutta	12000121094							
8	Automatic Licence Number Plate Recognition Using Machine Learning	Anwika Singh	12000121069	Prof. Anirban Bose	AI based Medical Image processing/ Research Publications	PO1, PO2, PO4, PO5, PO7, PO9, PO10, PO12, PSO1, PSO2, PSO3	Y	Y	Y	Y
		Sourav Manjee	12000121009							

Table 2.2.2: Few Sample projects and their contribution towards the attainment of POs and PSOs for session 2023-24

Sl. No	Project Title	Name of Student	University Roll Number	Name of Project Supervisor	Domain/ Outcome	Relevance to POs and PSOs	Environment	Safety	Ethics	Cost
1	Implementing different types of biometric for kinship verification providing human security.	Sourav Das	12000120121	Dr. Anandaprovamajumder, Dr. Sumana Kundu	Biometrics & Security/Research Publications	PO1, PO2, PO4, PO5, PO9, PO10, PO12, PSO1, PSO2, PSO3	Y	Y	Y	Y
		Arkadyuti Mahato	12000120101							
		Sourav Das	12000120121							
2	Bone Fracture detection using Image Processing	Jahiruddin Mallick	12000120038	Prof. Monalisa Chakraborty	Artificial Intelligence & Machine Learning/Research Publications	PO1, PO2, PO4, PO5, PO8, PO9, PO10, PO12, PSO1, PSO2, PSO3	Y	Y	Y	Y
		Soumi Ghosh	12000120107							
		Suvajit Garai	12000121093							
3	A Dynamic Programming Based Graph Traversal Approach for Efficient Implementation of Nearest Neighbor Architecture in 2D	Megha Kesh	12000120115	Dr. Sovan Bhattacharya & Dr. Chandan Bandyopadhyay	Advanced Algorithms & Spatial Computing/Research Publications	PO1, PO2, PO4, PO5, PO8, PO9, PO10, PO12, PSO1, PSO2, PSO3	Y	Y	Y	Y
		Sneha Lahiri	12000120117							
		Rupsa Mandal	12000120120							

C. Continuous monitoring process (04)

After identification of the capstone/major project and allocation of supervisors, students carry out the project work under the guidance of the project supervisor and supervisors once every week (Project Day) to discuss the progress of work and submit weekly progress reports.

The progress of the projects is continuously monitored through presentations before the Project Review Committee (PRC) as per the academic calendar. The PRC coordinators, and senior faculty members, reviews the work, provides suggestions for improvement, and evaluates the progress based on predefined rubrics.

Continuous monitoring includes assessment of:

- Literature review and methodology
- Technical progress and implementation
- Innovation and originality
- Environmental, safety, and ethical considerations
- Mapping with POs and PSOs

Students prepare the project synopsis in the VII semester and submit the final project report with demonstration/prototype in the VIII semester as per university guidelines.

D. Quality of completed projects/working models/prototypes in relation to environment, sustainability, safety, ethics and cost (10)

The quality of completed projects, working models, and prototypes is evaluated through continuous assessment and final review by the Project Review Committee. Projects are assessed based on:

- Relevance and originality of the problem
- Quality of literature review and methodology
- Analysis, implementation, and presentation of results
- Innovation and societal relevance

- Environmental sustainability, safety, ethics, and cost considerations
- Compliance with applicable standards
- Mapping with Program Outcomes (POs) and Program Specific Outcomes (PSOs)

Both team and individual performances are evaluated. Team performance includes methodology, analysis, report quality, and project outcomes, whereas individual contribution, presentation skills, and ability to answer questions during reviews and viva-voce.

Individual student performance is assessed using a structured rubric covering:

- Knowledge of project domain
- Degree of involvement and contribution
- Real-life relevance of the project
- Completion level and technical quality
- Report formatting and presentation

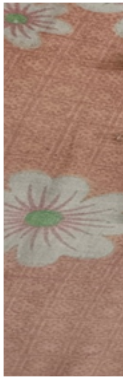
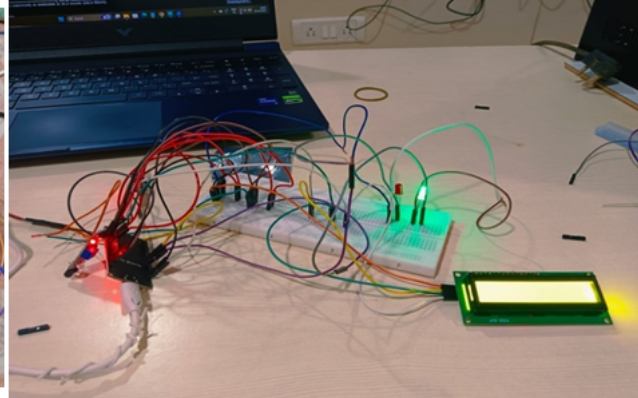
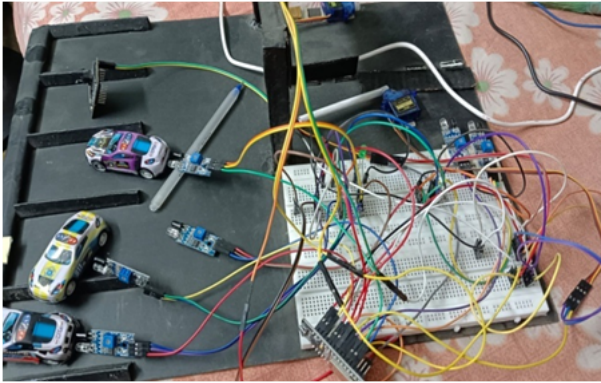
The final project demonstration of the working prototype and the report is evaluated by the project review committee along with the respective guide. The student project review committee and other faculty members. The project review committee and corresponding project guide evaluate the students based on demonstration domain, and the submitted report.

Table 2.2.3: Sample projects for quality of completed working models/prototypes

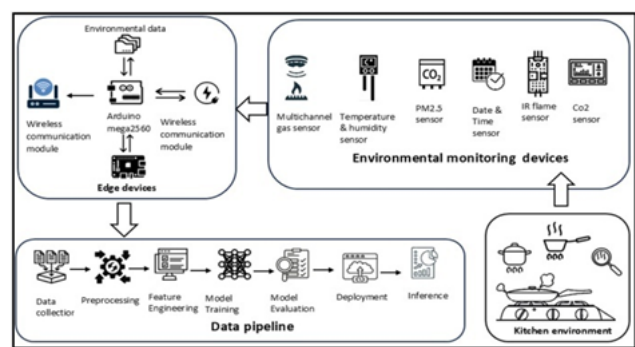
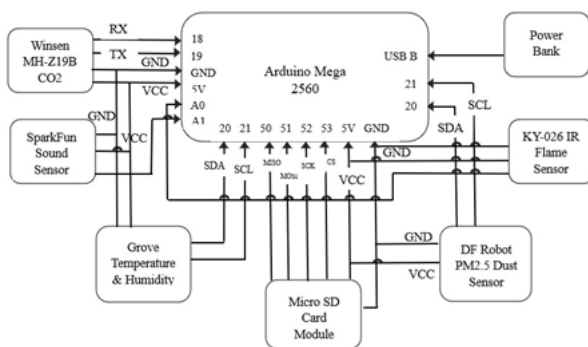
Project Title	Name of the Student	University Roll Number	Name of Project Supervisor
Context Identification using Passive Sensing for Smart Kitchens	Abhishek Dasgupta	12000121003	Dr.Arindam Ghosh
	SagnikSanyal	12000121034	
	JoydeepMallick	12000121036	
Smart Home With Security Surveillance	Subhadeep Mukherjee	12000121104	Prof.BiswajitSaha
	DebangshuHazari	12000121077	
	SumantraBandyopadhyay	12000121092	
Interior Design App Using Augmented Reality(AR)	TuhinModak	12000121095	Prof.SyedZahir Hasan
	Sayantani Chatterjee	12000121122	
	SuvajitGarai	12000121093	
IoT& Machine Learning (Smart Parking)	BiptainRakshit	12000123128	Prof.JoyjitPatra
	Soumyadip Jana	12000123131	
	SaptarshiMaji	12000122101	
	Anish Konar	12000122105	
Privacy-Preserving Kitchen Activity Classification Using Acoustic and Environmental Sensors with TinyML	Upasana Ghosh	12000122025	Prof.Ruma Ghosh
	TitikshaDalal	12000122060	
TinyML-Based Floor-wise AQI Prediction in Smart Classrooms	Survi Mukherjee	12000122070	Prof.Ruma Ghosh
	Rajeshwari Das	12000122065	

Tiny Flame: Context aware cooking activity detection using flame sensing on EDGE devices	GOKUL PAL	12000122006	Prof.Ruma Ghosh
	RIMA GORAI	12000122021	
	SNEHA CHAND	12000122032	

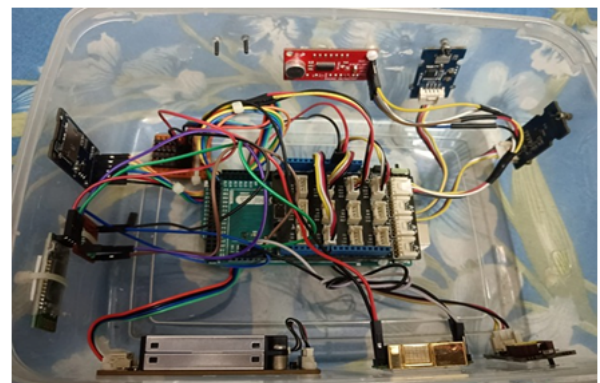
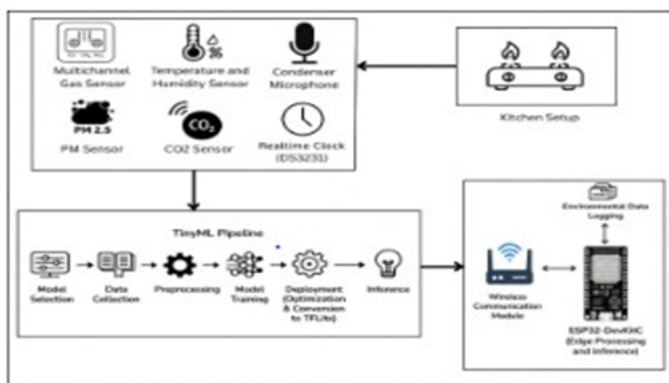
1. IoT & Machine Learning (Smart Parking) Project working models/prototypes:



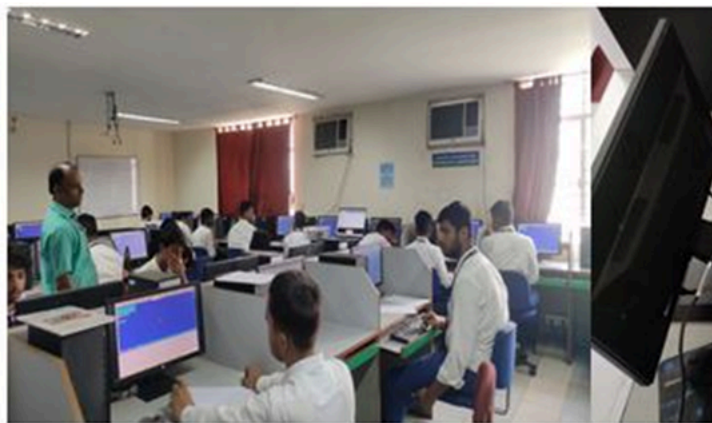
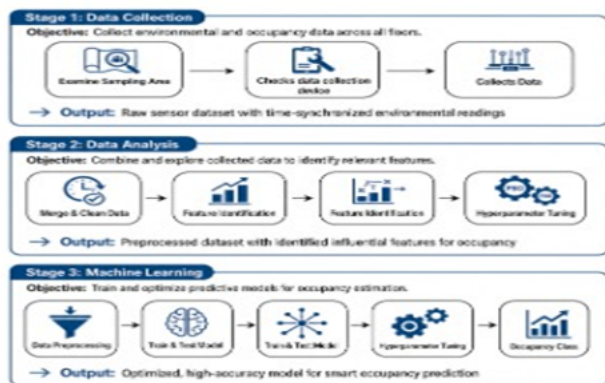
2. Tiny Flame: Context aware cooking activity detection using flame sensing on EDGE devices Project working models/prototypes:



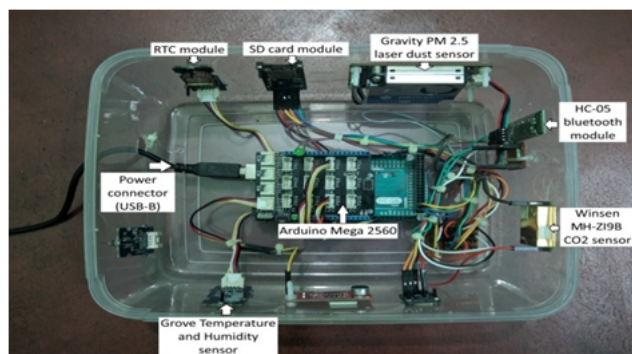
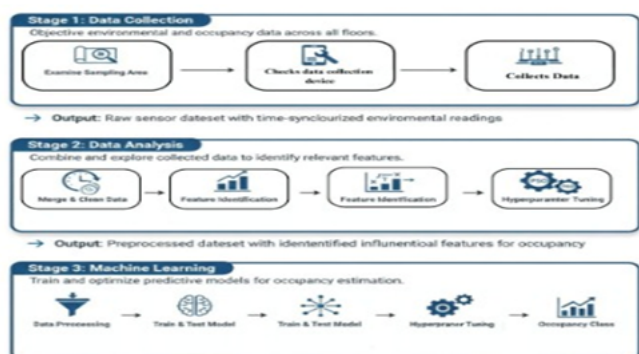
3. Privacy-Preserving Kitchen Activity Classification Using Acoustic and Environmental Sensors with TinyML Project working models/prototypes:



4. TinyML-Based Floor-wise AQI Prediction in Smart Classrooms Project working models/prototypes:



5. AQI and Occupancy Estimation in Smart Classrooms using PSO Optimised Models: AC vs Non-AC Multi-Floor Analysis Project working models/protot



Department encourages all students to participate and present their project work in various international conferences or publish as a book chapter/journal and Pro
The student publication details (from project) are given in Table 2.2.4, Table 2.2.5, and Table 2.2.6 session wise.

Table 2.2.4: The student publication details from project in 2024-25

Sl. No.	Paper Title	Name of the Student	Journal / Conference / Book / Book Chapter Name	DOI
1	TinyBioGait — Embedded intelligence and homologous time approximation warping for gait biometric authentication from IMU signals	Subhrangshu Adhikary	Computers and Electrical Engineering	2352-6483 doi.org/10.1016/j.smhl.2024.100515

2	PrivLet: A differential privacy and inverse wavelet decomposition framework for secure and optimized hemiplegic gait classification	Subhrangshu Adhikary	Computers and Electrical Engineering	1746-8094 doi.org/10.1016/j.bspc.2024.106577
3	CT-GANet: A Fusion of GAN and UNet for CT Image Segmentation of Interstitial Lung Disease Affected Lung	Sagnik Das & 8th Sem	Journal of The Institution of Engineers (India): Series B	Print ISSN: 2250-2106, https://doi.org/10.1007/s40031-025-01203-6
4	Prediction of GATE Examination Clearance for Fresh Graduate Candidates: An Advanced Machine Learning Approach	Ayan Banerjee, Rachana Das, Puja Kumari, Ankita	International Conference on Machine Learning and Big Data Analytics	978-3-031-51338-1 doi.org/10.1007/978-3-031-51338-1_32
5	SensAKitchen: Contextualizing Kitchen Activities with IoT-Enabled Event Identification	Arnab Mukherjee; Rangan Mukherjee	IEEE International Conference on Electronics, Computing and Communication Technologies (CONECCT)	ISBN:979-8-3503-8593-9 10.1109/CONECCT62155.2024.10677299
6	Assessment of Several Loss Functions and Optimization Strategies for Pneumonia Detection	Mithu Mal & Mtech 4th Sem	International Conference on Computing Sciences 2023 (ICCS 2023)	SSRN: https://ssrn.com/abstract=4834084

7	Improving Alexa's response with sentiment analysis and comparing various machine learning models	Kalyan Maji; Mithu Mal & Mtech 4th Sem	2024 International Conference on Circuit, Systems and Communication (ICCSC)	ISBN:979-8-3503-6531-3 10.1109/ICCSC62074.2024.10617303
8	NLP and ML for real-time sentiment analysis in Finance	Anindita Das & 8th Sem	2024 IEEE International Conference on Communication, Computing and Signal Processing (IICCCS)	10.1109/IICCCS61609.2024.10763733
9	Evaluating Usability and Impact of IoT-Driven Sensor-Based Home Diagnostics	Sandipan Das & Mtech 4th Sem	2024 International Conference on Decision Aid Sciences and Applications (DASA)	ISBN:979-8-3503-6911-3 10.1109/DASA63652.2024.10836463
10	Breast Cancer Classification Using Machine Learning: A Comprehensive Review and Analysis	Srijita Bhattacharyya, Soumi Badyaka & 8th Sem	International Conference on Smart Systems and Wireless Communication SSWC 2024	Print ISBN 978-981-96-1347-2 https://doi.org/10.1007/978-981-96-1348-9_30
11	Analyzing Post-Shopping Facial Expressions : Unraveling Emotions for Enhanced Consumer Insights	Aiswarya Rana, Abhik Goswami, Sutanu Mazumder, & 8th Sem	Analytics, Machine Learning, and Artificial Intelligence	978-3-031-75157-8 https://doi.org/10.1007/978-3-031-75157-8_10
12	An Intelligent Disaster Management System: Integrating Technology for Effective Response and Recovery	Nandini Pandey; Priya Rani & 8th Sem	2025 3rd International Conference on Intelligent Systems, Advanced Computing and Communication (ISACC)	979-8-3315-2389-3 10.1109/ISACC65211.2025.10969224

13	SensAKitchen: Contextualizing Kitchen Activities with IoT-Enabled Event Identification	Arnab Mukherjee; Rangan Mukherjee & 8th Sem	2024 IEEE International Conference on Electronics, Computing and Communication Technologies (CONECCT)	979-8-3503-8592-2 10.1109/CONECCT62155.2024.10677299
14	Compressive Sensing for IMU-based Gait Activity Assessment Using Discrete Wavelet Transform	Subhrangshu Adhikary	2024 IEEE International Conference on Electronics, Computing and Communication Technologies (CONECCT)	979-8-3503-8592-2 10.1109/CONECCT62155.2024.10677045
15	Design of IoT-Based Smart Energy Meter for E-Billing and Prepaid Electricity	Sushmita Bhrahmachary	Recent Advances in Artificial Intelligence and Smart Applications	978-981-97-3484-9 https://doi.org/10.1007/978-981-97-3485-6_22
16	Secured Home Automation with Voice Recognition Using ML and IoT Devices	Anisha Singha; Tanmoy Sural; Rishi Raj Pandey; Rohit Paul	2024 IEEE International Conference on Computer Vision and Machine Intelligence (CVMI)	979-8-3503-7687-6 https://doi.org/10.1109/CVMI61877.2024.10782875
17	A Real-Time Machine Learning based Statistical Approach for Power Generation Prediction for Solar PV Plant	Ayusman Maji, Rajdeep Saha, Pronoy Das Choudhury	Sixth International Conference on Computational Intelligence in Communications, and Business Analytics (CICBA-2024)	978-3-031-81335-1 doi.org/10.1007/978-3-031-81336-8_24
18	Advancing Lung Cancer Diagnosis and Prognosis through Machine Learning Algorithm	Soujatya Banerjee, Astom Mondal, Ranit Mondal	Sixth International Conference on Computational Intelligence in Communications, and Business Analytics (CICBA-2024)	978-3-031-81338-2 doi.org/10.1007/978-3-031-81339-9_24
19	Harvesting the future: smart farming system	Animikh Ghosh, Sukrit Basak, Md. Sehran Talib	International Conference on Innovative Trends in Electrical, Electronics and Bio-Technology Engineering (ICITEEB 2024)	doi.org/DOI: 10.1201/9781003606208-12

20	Plant Disease Detection Using Modern Deep Learning Approach: YOLOv7	Ayan Banerjee, Arkaprava Mazumder, Ayush Kumar Shaw	International Conference on Machine Learning and Big Data Analytics(ICMLBDA 2023)	978-3-031-51337-4 doi.org/10.1007/978-3-031-51338-1_25
21	Automated Reviewer Assignment Process Using Machine Learning Technique	Arkaprava Mazumder, Ayan Banerjee	International Conference on Machine Learning and Big Data Analytics (ICMLBDA2023)	978-3-031-51337-4 doi.org/10.1007/978-3-031-51338-1_7
22	The Evolutionary Impact of Pattern Recognition in Research Applications : A Wide Spectrum Survey	Sumit Pal	International Conference on Machine Learning and Big Data Analytics (ICMLBDA 2023)	978-3-031-51337-4 doi.org/10.1007/978-3-031-51338-1_31
23	An IoT-Based Smart Tracking Application Integrated with Global Positioning System (GPS)	Ritika Chatterjee	Recent Advances in Artificial Intelligence and Smart Applications	978-981-97-3484-9 doi.org/10.1007/978-981-97-3485-6_18

Table 2.2.5: The student publication details from project in 2023-24

Sl. No.	Paper Title	Name of the Student	Journal / Conference / Book / Book Chapter Name	DOI
1	AUNet-MHA: An Attention U-Net based Multi-Head Self Attention for Lung Lesion Segmentation from CT Images	Abhishek Kumar	Procedia Computer Science	https://doi.org/10.1016/j.procs.2024.04.177 https://www.scopus.com/sourceid/19700182801

2	ViT-ILD: A Vision Transformer-based Neural Network for Detection of Interstitial Lung Disease from CT Images	Abhishek Kumar	Procedia Computer Science	https://doi.org/10.1016/j.procs.2024.04.074 https://www.scopus.com/sourceid/19700182801
3	Automated Bone Fracture Detection in X-ray Imaging to Improve Orthopaedic Diagnostics in Healthcare	Soumi Ghosh, JahiruddinMallick	Procedia Computer Science	https://doi.org/10.1016/j.procs.2024.03.272 https://www.scopus.com/sourceid/19700182801
4	OccuCon: A Context-aware Environment Sensing Approach Towards Indoor Occupancy Estimation	Sumit Dhar; Saptarshi Ghosh; Abhik Mandal & 8th Sem	2024 IEEE International Conference on Computing, Power and Communication Technologies (IC2PCT)	DOI: 10.1109/IC2PCT60090.2024.10486464
5	Malicious Transaction URL Detection Using Logistic Regression	Aratrik Bose	Proceedings of International Conference on Network Security and Blockchain Technology	978-981-99-4432-3 Online ISBN 978-981-99-4433-0 doi.org/10.1007/978-981-99-4433-0_8
6	Storage and Organisation of Geospatial Data in Distributed Blockchain Using IPFS	Shivanshu Singh, AyushTah	International Conference on Emergent Converging Technologies and Biomedical Systems	978-981-99-8645-3 doi.org/10.1007/978-981-99-8646-0_46
7	IoT applications detect still images and loop videos in real-time video conferences employing the hybrid violajones method and haar cascade classifier	Ankit Raj Srivastava, Himesh Kumar Gauttam, PragatiSuman	ICONIC 2023	doi.org/10.1201/9781003430421

8	Digital Watermarking Strategies for Healthcare Data Security: A Comprehensive Review and Analysis	Aditi Kumari, HarshekMadhukar, Shagufa Ali Haider	IoMT2024	DOI: 10.4018/979-8-3693-2109-6.ch007
9	A Dynamic Programming Based Graph Traversal Approach for Efficient Implementation of Nearest Neighbor Architecture in 2D	Sneha Lahiri, Megha Kesh, Rupsa Mandal, & 8th Sem	2024 37th International Conference on VLSI Design and 2024 23rd International Conference on Embedded Systems (VLSID)	979-8-3503-8440-6 https://doi.org/10.1109/VLSID60093.2024.00057
10	Evolution of 6G- an In-depth Survey on History of Spectrum Allocation	V Pawar, A Chanda, P Nag, S Roy, A. Chatterjee & 6th Sem	2023 IEEE International Conference on Integrated Intelligence and Communication Systems (ICIICS)	979-8-3503-1545-5 https://doi.org/10.1109/ICIICS59993.2023.10421327
11	ADU-Net: an attention dense U-Net based deep supervised DNN for automated lesion segmentation of COVID-19 from chest CT images	Subhadeep Dutta	Biomedical Signal Processing and Control	https://doi.org/10.1016/j.bspc.2023.104974 https://mjl.clarivate.com://search-results?issn=1746-8094&hide_exact_match_fl=true&utm_source=mjl&utm_medium=share-by-link&utm_campaign=search-results-share-this-journal

Table 2.2.6: The student publication details from project in 2022-23

Sl. No.	Paper Title	Name of the Student	Journal / Conference / Book / Book Chapter Name	DOI
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1	Prediction of Indian government stakeholder oil stock prices using hyper parameterized LSTM models	Aditya Kumar Singh	2022 International Conference on Intelligent Controller and Computing for Smart Power (ICICCSP)	10.1109/ICICCSP53532. 2022.9862425
2	Machine learning-based S-CNN model for automated post-covid X-RAY identification	Suchismita Deb; Amiya Dey	2022 Second International Conference on Interdisciplinary Cyber Physical Systems (ICPS)	10.1109/ICPS55917. 2022.00032
3	Optimized EEG based mood detection with signal processing and deep neural networks for brain-computer interface	Subhrangshu Adhikary	Biomedical Physics & Engineering Express	doi.org/10.1088/2057- 1976/acb942 (http://doi.org/10.1088/2057-1976/acb942)
4	Machine Learning Based Approach for Future Prediction of Authors in Research Academics	Ayan Banerjee, Abhik Goswami,	SN Computer Science Journal	https://doi.org/10.1007/ s42979-023-01692-6
5	Impact of Author indexing from the Co-authorship Relation	Ayan Banerjee, Arkaprava Mazumder	MESIICON-2022	doi: 10.1109/MESIICON 55227.2022.10093522.
6	e-BMI: A gait based smart remote BMI monitoring framework implementing edge computing and incremental machine learning	Subhrangshu Adhikary	Smart Health	DOI:doi.org/10.1016/ j.smhl.2022.100277
7	iBMSR: Intelligent Body Mass Status Recognition from Respiratory Auscultation	Subhrangshu Adhikary	COMSNETS 2023	DOI: 10.1109/COMSNETS 56262.2023.10041309

8	Opinion Mining and Sentiment Analysis on Twitter Data	Akanksha Priya; Sashwat Jha;	International Interdisciplinary Conference on Mathematics, Engineering and Science (MESIICON)	https://doi.org/10.1109/MESIICON.55227.2022.10093599 (https://doi.org/10.1109/MESIICON.55227.2022.10093599)
9	ADAMAX optimizer and CATEGORICAL CROSSENTROPY loss function-based CNN method for diagnosing Lung cancer	Prity Das;	7th International Conference on Trends in Electronics and Informatics (ICOEI)	10.1109/ICOEI.56765.2023.10126046
10	Optimization of Intraday Trading in F&O on the NSE Utilizing BOLLINGER BANDS	Mimo Patra	Human 2023: Intelligent Human Centered Computing	10.1007/978-981-99-3478-2_4
11	Artificial intelligence-based indicators for ALGO trading strategy on the NSE derivatives	Mimo Patra	ICIMMI 22: Proceedings of the 4th International Conference on Information Management & Machine Intelligence	10.1145/3590837.3590875
12	An Advanced Approach to Detect Plant Diseases by the Use of CNN Based Image Processing	Ayan Banerjee, Saikat Ray, Samik Mandal,	ICICSE-2022	https://doi.org/10.1007/978-981-19-7455-7_62 (https://doi.org/10.1007/978-981-19-7455-7_62)
13	e-BMI: A gait based smart remote BMI monitoring framework implementing edge computing and incremental machine learning	Subhrangshu Adhikary	Smart Health	DOI: doi.org/10.1016/j.smhl.2022.100277

14	ADAMAX optimizer and CATEGORIC AL CROSSENTR OPY loss function-based CNN method for diagnosing Lung cancer	Prity Das	7th International Conference on Trends in Electronics and Informatics (ICOEI)	10.1109/ICOEI56765 .2023.10126046
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2.3 Internship/Industrial Training (10)

2.3. Internship/Industrial Training (10)

A. Process of Internship/Industrial training for students (03)

Initiatives:

In collaboration with the department, the institute has a structured and established process for arranging internships and summer training for all department st. Project-based internships and summer training on in-demand industry-relevant projects and emerging technologies are encouraged by the department. Trainin students to pursue internships in closely related start-ups.

Implementation Steps:

- Each student applies for internships or summer training in multiple organizations of their choosing (guided by institute policy) as shown in Fig 2.3.1.
- The college requests that these organizations arrange internships or summer training for students for a reasonable period of time, typically a few weeks/months
- Once accepted by the organizations, the students notify the college that they will be participating in the internship and summer training.

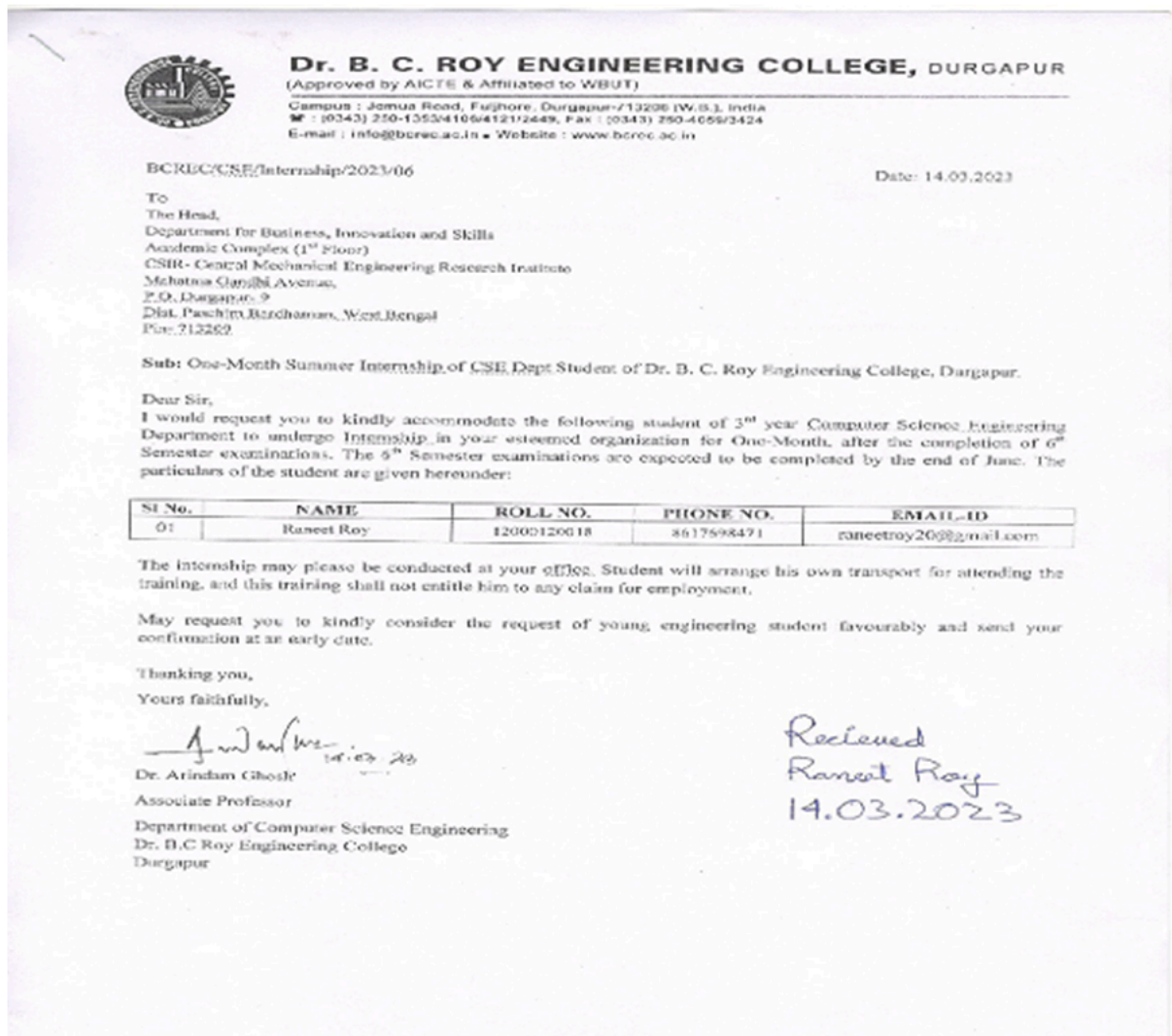


Fig 2.3.1: Application for Internship of students

Students submit a report and are critically evaluated on the experience at a suitable time (via viva) at the end of internships or summer training (as per Rubrics). Internship programme information for batch 2023-24, 2024-25 are tabulated in the below.

B. Mapping of Industrial training/internships with POs and PSOs (04)

PO & PSO Addressed:

PO2: identify, analyze, and formulate solutions for technical challenges encountered during industrial projects and workplace activities.

PO4: Perform experiments, collect data, analyze results, and draw conclusions to improve industrial processes and systems.

PO5: Utilize modern engineering tools, software platforms, programming environments, cloud technologies, and industry-standard frameworks effectively.

PO6: Understand the societal impact of engineering solutions and contribute responsibly to organizational and community needs

PO7: Recognize sustainable engineering practices and environmental considerations while developing and deploying technological solutions.

PO8: Demonstrate professional ethics, integrity, confidentiality, and adherence to organizational policies and industry standard.

PO10: Communicate effectively with supervisors, colleagues, clients, and stakeholders through reports, presentations, and technical discussions.

PO11: Understand project planning, resource management, scheduling, budgeting, and organizational practices involved in industrial projects.

PSO1: Apply principles of computer science and engineering to analyze industrial problems and develop efficient computing solutions.

PSO2: Design, develop, test, and deploy software applications using modern programming languages, tools, frameworks, and industry-standard practices.

Dr. B C Roy Engineering College, Durgapur - B.Tech Vocational Training 2023 - 2024 Batch

Table 2.3.1: List of companies for Internship programme for the session 2023-24

Sl. No.	Company Name	Department	No. of Students	Duration
1	Eastern Coalfields Limited - ECL	CSE	10	26.06.2023 - 25.07.2023 = 1 Month
2	DVC DSTPS, Andal	CSE	39	05.07.2023 - 22.07.2023 & 24.07.2023 - 08.08.2023 = 15 Days
3	Webel, COE - Gov. of West Bengal	CSE	7	
4	CELEBAL TECHNOLOGY	CSE	24	09-06-2023 - 08-08-2023
5	3s groomers	CSE	1	30 Days
6	Anovatech Institution of Crystalline Technology Pvt Ltd	CSE	11	30 Days
7	Ardent Computech Pvt Ltd	CSE	11	20-60 Days
8	BIRLA CORPORATION LIMITED	CSE	2	15 Days
9	BHARAT COKING COAL LIMITED	CSE	3	15 Days
10	CCL , Darbhanga House Ranchi	CSE	1	60 Days
11	CSIR-Central Mechanical Engineering Research Institute	CSE	8	30 Days
12	DURGAPUR STEEL PLANT	CSE	8	15-30 Days
13	National Institute of Technology, Durgapur	CSE	6	30 Days
14	Eduskillera	CSE	1	28 Days
15	Tata Motors	CSE	1	30 Days
16	PW Skills	CSE	1	35 Days
17	Oasis Infobyte	CSE	1	30 Days

Table 2.3.2: List of students for Internship programme for the session 2023-24

Sl No.	Student Name	University Roll No.	Name and Address of the Organization where Internship is done	Topic of the Internship/ Training	Duration (Weeks)	From	To
1	Mushkan	12000120009	Nabinagar Super Thermal Power Station(NTPC), PO- Aditi Nagar, Distt- Aurangabad, Bihar	Network Administration: Managing & Optimising the network infrastructure for seamless communication within the organization.	4	01-07-23	31-07-23
2	Tushar Subhra Bouri	12000120010	Name: Celebal Technologies Address: Jaipur, Rajasthan	SQL	8	10-06-23	08-08-23
3	Pratyusha Bhattacharjee	12000120011	BCCL,DHANBAD	Chat app for BCCL(WEB DEVELOPMENT)	4	15-07-23	14-08-23
4	ARPITA BANDYOPADHYAY	12000120012	AICT	Core Java with dbms	6	17-06-23	30-07-23
5	Soham Bhowmick	12000120013	Globsyn Crystals	Data Science using Python	4	22-06-23	17-07-23
6	ABHINAV KUMAR	12000120015	Celebal Technology, Jaipur	SQL	8	10-06-23	08-08-23
7	Md Sehran Talib	12000120016	Webel Fujisoft Vara Centre of Excellence in Industry 4.0	Data Science with python	4	24-06-23	23-07-23
8	Dibyam Dey	12000120017	CSIR-CMERI	Implementation of Algorithm for Moving Object Following Mobile Robot	4	20-06-23	19-07-23
9	RANEET ROY	12000120018	CSIR - CENTRAL MECHANICAL ENGINEERING RESEARCH INSTITUTE	Supervised Learning Algorithms for Binary Classification	4	26-06-23	21-07-23
10	Sukrit Basak	12000120019	Ardent internship	Java programming	4	13-06-23	12-07-23
11	Rakesh Akhuli	12000120021	Damodar Valley Corporation DSTPS, Andal	SDE Intern	2	24-07-23	08-08-23
12	Soham Mondal	12000120022	DSTPS DVC ANDAL	SDE Intern -IT CELL	2	24-07-23	08-08-23
13	Parthib Banerjee	12000120023	Celebal Technologies	React.Js	8	10-06-23	05-08-23
14	SANDIPAN ROY	12000120024	Durgapur Steel Plant(DSP) , Durgapur - 713203	Summer Vocational Training	2	03-07-23	14-07-23

15	Sayan Mondal	12000120028	Celebal Technologies, Jaipur, India	SQL	9	10-06-23	10-08-23
16	Saptarshi Santra	12000120029	CSIR-Central Mechanical Engineering Research Institute, (Address: Mahatma Gandhi Rd, opposite NIT, City Center, Durgapur, West Bengal 713209)	Enhancement & Color Restoration of UW Turbid Images	4	26-06-23	21-07-23
17	ADITI BAGADDEO	12000120030	NATIONAL INSTITUTE OF TECHNOLOGY, DURGAPUR	DEEP LEARNING	4	30-06-23	29-07-23
18	Rangan Mukherjee	12000120031	DVC(Durgapur Steel Thermal Power Station, Andal)	SDE-Intern	2	24-07-23	08-08-23
19	Sonal Modi	12000120032	Celebal Technologies, Jaipur	SQL	8	10-06-23	05-08-23
20	SHREYA SINHA	12000120033	Anovatech Institute of Crystalline Technology pvt ltd	Full stack development using mern	2	17-07-23	31-07-23
21	Preyom Ghosh	12000120034	ECL	Database Management system	4	26-06-23	25-07-23
22	Subhash kumar	12000120036	Celebal Technologies	SQL	8	10-06-23	05-08-23
23	Jahiruddin Mallick	12000120038	Eastern Coalfield Limited	PL/SQL in Oracle	4	26-06-23	25-07-23
24	Gouranga Kamilya	12000120039	Celebal Technologies	SQL	8	10-06-23	05-08-23
25	PRATYUSHA AICH	12000120042	Ardent Computech Private Limited, Bidhannagar, Durgapur -12	Core Java	4	07-01-23	07-02-23
26	Pragya Priya	12000120043	Anovatech institute of crystalline technology pvt ltd	Core java with Dbms	6	15-07-23	26-08-23
27	ANGEL	12000120045	New colony, Bari Dariyapur jamalpur	FULL STACK WEB DEVELOPMENT USING MERN	6	17-06-23	31-07-23

28	Soumyadeep Chakraborty	12000120046	CSIR-CMERI Mahatma Gandhi Rd, opposite NIT, City Center, Durgapur, West Bengal 713209	Robotics and Automation	4	20-06-23	19-07-23
29	MANISH	12000120053	Celebal Technologies	SQL	8	10-06-23	08-08-23
30	Yash Raj	12000120055	Celebal Technologies	Node js	9	20-05-23	20-07-23
31	Sovik Gorai	12000120058	CELEBAL TECHNOLOG Y (virtual)	Sql	8	10-06-23	08-08-23
32	VISHAL SHAW	12000120060	EASTERN COALFIELDS LIMITED OFFICE OF AREA GENERAL MANAGER , JHANJRA AREA P.O. JHANJRA BO, DIST.PASCHI M BURDWAN, WEST BENGAL, PIN:713385	Database Management Systems	4	26-06-23	25-07-23
33	POULOMI SINGHA MAHAPATRA	12000120061	Anovatech Institute Of Crystalline Technology Pvt Ltd , 21, Sahid Sukumar Banerjee Sarani, Aranyak (West), Bidhannagar, Durgapur, West Bengal -713212	Core java with DBMS	6	17-06-23	30-07-23
34	Shagufa Ali Haider	12000120063	Anovatech Institute of Crystalline Technology Pvt Ltd Durgapur, West Bengal	CORE JAVA WITH DBMS	6	17-06-23	31-07-23
35	ADITI KUMARI	12000120064	Celebal Technologies	SQL domain	8	10-06-23	08-08-23
36	Aisha Agarwal	12000120066	BCCL	Chat App	4	15-07-23	14-08-23
37	Arpan Maity	12000120067	Ardent	Industrial training on professional Java Programming	4	13-06-23	12-07-23
38	SAPTARSHI GHOSH	12000120068	DVC, Andal	ERP & Networking	2	24-07-23	08-08-23

39	SHOUMIK MANNA	12000120069	Name : Anovatech Institute Of Crystalline Technology Pvt Ltd Address : 21, Sahid Sukumar Banerjee Sarani, Aranyak (West), Bidhannagar, Durgapur, West Bengal 713212.	Full Stack Web Development using MERN	6	17-06-23	31-07-23
40	Shreya Irish Shaw	12000120071	Ardent Computech Pvt Ltd, Aranyak (West), Bidhannagar, Durgapur, West Bengal 713212	Full stack development using java	4	16-03-23	16-04-23
41	Samik Chakraborty	12000120072	Damodar Valley Corporation, DSTPS, Andal	SDE Intern	2	24-07-23	08-08-23
42	Sumit Dhar	12000120073	Damodar Valley Corporation	ERP and Networking	2	24-07-23	08-08-23
43	Krishna Kumar thakur	12000120074	Ardent computech Pvt.Ltd	Machine learning using python	12	01-05-23	26-07-23
44	Anindita Das	12000120077	WEBEL FUJISOFT VARA CENTRE OF EXCELLENCE , ACHARYA MAHAPRAGY A MAHASHRAM AN, Jodthbhim, Newtown, New Town, West Bengal 743502	WEB DEVELOPME NT - PHP WITH MY SQL	8	16-06-23	11-08-23
45	Harshek Madhukar	12000120078	Anovatech Institute Of Crystalline Technology Pvt Ltd, Durgapur West Bengal	Full Stack Web Development Using Mern	6	17-06-23	30-07-23
46	Akash Mahato	12000120079	Celebal Technology, Jaipur	Node Js	8	10-06-23	08-08-23
47	Sahil Alam	12000120080	Celebal Technologies	SQL Domain	8	27-05-23	25-07-23
48	Disha Ray	12000120081	ARDENT COMPUTECH PVT. LTD, Module #132, Ground Floor, SDF Building, GP Block, Sector V, Bidhannagar, Kolkata, West Bengal 700091	Full stack web development using PHP	9	13-06-23	13-08-23

49	Shreyan Misra	12000120084	CSIR - Central Mechanical Engineering Research Institute, Durgapur	Machine Learning, Data Science	4	28-06-23	25-07-23
50	RITIKA GORAI	12000120085	Damodar Valley Corporation, DVC DSTPS Andal	IT and NETWORKING	2	24-07-23	08-08-23
51	Debtirtha Roy	12000120086	Durgapur Steel Plant (SAIL)	Vocational Training	2	10-07-23	21-07-23
52	Satyaki Mitra	12000120088	Webel Fujisoftware, Kolkata, Newtown	Python with Data Science	9	24-06-23	23-08-23
53	Priyanka Patwari	12000120089	Annovatech Institute of Crystalline Technology Private Limited	Full stack web development	6	17-06-23	30-07-23
54	Kaushal Kishor Tiwary	12000120090	CELEBAL TECHNOLOGIES	SQL	8	10-06-23	08-08-23
55	Tathagata Dasgupta	12000120091	CSIR-CMERI , GANDHIMORE DURGAPUR	Machine learning	4	26-06-23	26-07-23
56	Niwesh kumar	12000120092	Anovatech Institute Of Crystalline Technology Pvt Ltd, Bidhanagar , Durgapur, West Bengal	Core Java with DBMS.	6	17-06-23	30-07-23
57	Sayan Saha	12000120093	Durgapur Steel Plant, Near Statue Of Epic Hero Arjun, Durgapur, West Bengal 713217	vacation training	2	26-12-22	06-01-23
58	Soumi Das	12000120095	Celebal Technologies	SQL	8	10-06-23	08-08-23
59	Abhik Mandal	12000120096	DVC, ANDAL-713321	ERP and Networking	2	24-07-23	08-08-23
60	Debahuti Chakrabarti	12000120097	Tata Motors, Jamshedpur, Jharkhand	Web Development	4	12-07-23	12-08-23
61	ARKADYUTI MAHATO	12000120101	Ardent Computech Pvt. Ltd., Bidhanagar, Durgapur, West Bengal 713212	Web Designing	19	23-02-23	08-07-23
62	Shashank Sahay	12000120103	AICT ; 21, Sahid Sukumar Banerjee Sarani, Aranyak (West), Bidhanagar, Durgapur, West Bengal 713212	Core Java with Dbms	6	17-06-23	30-07-23

63	Nivedita Paul	12000120104	Celebal Technologies	Sql domain	-8	06-10-23	08-08-23
64	Monalisha Ghosh	12000120105	Celebal Technologies	SQL	8	10-06-23	05-08-23
65	SABREEN ANJUM	12000120106	CELEBAL TECHNOLOGIES, Jaipur	SQL DOMAIN	8	10-06-23	08-08-23
66	Soumi Ghosh	12000120107	Eastern Coalfield Limited, Ecl area office, Kajora	DBMS	4	26-06-23	25-07-23
67	Sourav Jana	12000120108	Celebal Technologies, Jaipur, Rajasthan, India	Node.js Intern	7	10-06-23	29-07-23
68	Shahala Nigar	12000120109	Celebal Technologies	SQL	8	10-06-23	08-08-23
69	Tapan Kumar Ghosh	12000120110	Damodar valley corporation	Power Consumption and ERP	2	24-07-23	08-08-23
70	Nivedita Bharti	12000120111	Aict pvt Ltd	Core java with dbms	6	17-06-23	30-07-23
71	Avnish Kumar Thakur	12000120112	Linux World	Generative-AiOps	6	20-07-23	29-08-23
72	Subham Misra	12000120114	Easter coalfield limited, jajhra west bengal	Plsql , system dept	4	26-06-23	25-07-23
73	MEGHA KESH	12000120115	WEBEL FUJISOFT VARA CENTRE OF EXCELLENCE , ACHARYA MAHAPRAGYA MAHASHRAM AN, Jodthbhim, Newtown, New Town, West Bengal 743502	WEB DEVELOPMENT - PHP WITH MySQL	8	16-06-23	11-08-23
74	ANIMIKH GHOSH	12000120116	National Institute of Technology Durgapur, Mahatma Gandhi Rd, A-Zone, Durgapur, West Bengal 713209	Future Prediction Model for budding research scholars	4	20-06-23	20-07-23

75	Sneha Lahiri	12000120117	WEBEL FUJISOFT VARA CENTRE OF EXCELLENCE , ACHARYA MAHAPRAGY A MAHASHRAM AN, Jodthbhim, Newtown, New Town, West Bengal 743502	WEB DEVELOPME NT - PHP WITH MY SQL	8	16-06-23	11-08-23
76	Priyanshu Dey	12000120118	Codsoft (Virtual)	Web Development	4	25-07-23	25-08-23
77	Lipi Mishra	12000120119	ARDENT COMPUTECH PVT. LTD, Bidhannagar, Durgapur, West Bengal 713212	Web Designing	19	23-02-23	08-07-23
78	Rupsa Mandal	12000120120	WEBEL FUJISOFT VARA CENTRE OF EXCELLENCE , ACHARYA MAHAPRAGY A MAHASHRAM AN, Jodthbhim, Newtown, New Town, West Bengal 743502	WEB DEVELOPME NT - PHP WITH MY SQL	8	16-06-23	11-08-23
79	Sourav Das	12000120121	Durgapur	MOBILE APPLICATIO N DEVELEOPM ENT IN FLUTTER	16	09-09-22	30-12-22
80	Suvendu Saha	12000121106	Webel-Fujisof- Vara, New Town, West Bengal-743502	Data Science with Python	4	24-06-23	23-07-23
81	Rahul Ghosh	12000121109	DAMODAR VALLEY CORPORATIO N , DSTPS andal, Ardent computech pvt ltd	Erp system ,computer network , machine learning with python	7	24-07-23	08-09-23
82	Rahul Ghosh	12000121109	DVC, DSTPS, ANDAL ARDENT COMPUTECH PTV LTD	ERP System, networking, Machine learning with python	2	24-07-23	08-08-23
83	SOMNATH PAL	12000121110	WEBEL FUJISOFT- VARA	CLOUD COMPUTING	5	03-07-23	04-08-23
84	Suraj Mohan Tiwari	12000121111	Webel Fujisof	Cloud Computing	5	03-07-23	04-08-23
85	Sayan Mukherjee	12000121114	Dsp	Vacational training	39	07-03-23	07-12-23

86	Shuvrajit Dutta	12000121116	CSIR-CMERI , Durgapur	Development of a Guided Robotic Vehicle	5	14-06-23	21-07-23
87	Bithi Mukhopadhyay	12000121136	ECL	DBMS	4	26-06-23	25-07-23
88	Saumya Singh	12000121137	Anovatech Institute Of Crystalline Technology Pvt Ltd , Durgapur West Bengal	Core Java with DBMS	6	17-06-23	30-07-23
89	DEEPANSHU KUMAR SINGH	12000220018	central coalfields ltd. Ranchi	SAP & Web development(re act js)	4	17-07-23	17-08-23
90	Satyam Mahapatra	12000220031	DataSpace Academy, Kolkata: 3rd FLOOR, SEVEN HILLS BUILDING, EN 34, SALT LAKE SECTOR 5, KOLKATA 700091.	Certification in Data Science	20	14-04-23	30-08-23
91	Shristi Nag Roy	12000220041	DVC (DSTPS) Ondal	power consumption and ERP	2	24-07-23	08-08-23
92	Rounak Mishra	12000320016	Celebal Technologies, 7th floor Corporate Tower JLN Marg, near Jawahar Circle, Malviya Nagar, Jaipur, Rajasthan 302017	SQL	4	10-07-23	08-08-23
93	Mohd Noorain Ahmad Nizami	12000320045	TATA MOTORS, telco Colony, Jamshedpur, jharkhand 831010	Library Management System using JAVA and MySQL	4	03-07-23	03-08-23
94	Pabitra Hui	12001620038	Webel Fujisoft Vara Centre of Excellence in Industry 4.0,Centre Address: Plot No. 2222 Action Area IIIA, Jothbbhim, Baligari,New Town, Kolkata, West Bengal, India 700156	Data Science with Python	4	24-06-23	23-07-23
95	Ankita Chowdhury	12001620041	Celebal Technologies	SQL	8	10-06-23	08-08-23

96	Raj Mukherjee	12001620057	Webel Fuzisoft Vara Centre of Excellence in Industry 4.0 ,Kolkata.	Python with Data science .	4	24-06-23	23-07-23
97	SOURADEEP CHAKRABORTY	12001620060	ARDENT COMPUTECH PVT LTD, 2nd Floor S.S.B, Bhimpalashri Sarani, near Indian Oil Petrol Pump, near HDFC Bank Ltd, Aranyak (West), Bidhannagar, Durgapur, West Bengal 713212	PROFESSION AL JAVA PROGRAMMI NG	3	24-06-23	15-07-23

Dr. B C Roy Engineering College, Durgapur - B.Tech Vocational Training 2024 - 2025 Batch

Table 2.3.3: List of companies for Internship programme for the session 2024-25

Sl. No.	Company Name	Department	No. of Students	Duration
1	Eastern Coalfields Limited - ECL	CSE	4	01.07.2024 - 31.07.2024 = 1 Month
2	DVC Maithon	CSE	1	06.07.2024 - 27.07.2024 = 21 Days
3	DVC DSTPS, Andal	CSE	12	01.07.2024 - 15.07.2024 = 15 days
8	Webel, COE - Gov. of West Bengal	CSE	43	01.07.2024 - 31.07.2024 = 3 Weeks to 4 Weeks
11	CTTC Bhubaneswar	CSE	4	Internship ends 31.07.2024
13	Celebal Technology	CSE	55	Virtual Internship(CSI / COE)
14	BCREC AICTE Idea Lab	CSE	7	

Table 2.3.4: List of students for Internship programme for the session 2024-25

Sl. No.	University Roll	Name of the Student	Name and Address of the Organization where training / internship is confirmed.	Start Date of training.	End Date of training	Topic of the training/internship will be done
1	12000121084	SK SAHIL HOSSAIN	Webel Fujisoft Vara Centre of Excellence in Industry 4.0 Plot No - 2222 Action Area - IIIA, Jothbhim, Baligari, New Town, Kolkata, Pin - 700156, West Bengal, India	01-07-24	27-07-24	Web Development of 50 hours
2	12000122141	Ankita Saha	Plot No - 2222 Action Area - IIIA, Jothbhim, Baligari, New Town, Kolkata, Pin - 700156, West Bengal, India	04-07-24	23-07-24	Data Analytics
3	12000121097	RONIT SINGHA	CELEBAL TECHNOLOGIES	03-06-24	03-08-24	SQL
4	12000121026	Sanoj Kumar	Webel Fuji soft wara Kolkata	04-07-24	31-07-24	Data analytics

5	12000121135	Pinaki Nandi	Unit: Aditya Aluminium, P.O. : Lapanga, Dist. Sambalpur, Odisha, 768212, India	01-07-24	31-07-24	Employee Management System
6	12000121037	Rajdip Chatterjee	CSIR-Central Mechanical Engineering Research Institute, Address - Mahatma Gandhi Avenue, Durgapur - 713209, West Bengal, INDIA	01-07-24	31-07-24	Interactive Graphics Programming for Creating Digital Twin of Cyber Physical Systems
6	12000121102	Ipsita Sarkar	CSIR-CMERI	01-07-24	31-07-24	Hand motion intention recognition from Surface Electromyography
7	12000121009	Sourav Manjee	Webel-Fujisoft-Vara, Centre of Excellence, Industry4.0, Jodthbhim Newtown New Town West Bengal India	04-07-24	31-07-24	Perform feature Selection algorithm on Heart Failure dataset
7	12000121033	IYALAPAKA SIDDU SIDHARDHAR	Vaultofcodes, Delhi HQ(Remote)	07-05-24	07-06-24	Web development
8	12000121010	Nishant Kumar	Central Tool Room and Training centre , Bhubaneswar	01-07-24	31-07-24	AIML
9	12000121018	SOUMYAJIT MANDAL	Celebal Technologies Private limited, Jaipur	20-05-24	20-07-24	SQL databases and database management
10	12000121002	Koushick Mondal	Celebal Technologies	20-05-24	20-08-24	Data Engineering
11	12000121063	AVIRUP MUKHERJEE	Celebal Technologies, Rajasthan, India	20-05-24	22-08-24	Data Science
12	12000121056	Priyanka Manna	Celebal Technology, Jaipur, Rajasthan	20-05-24	20-07-24	Data engineering
13	12000122131	Eshita Upadhyay	DVC, DSTPS, ANDAL	01-07-24	15-07-24	Vocational Training
14	12000122132	Riya Dutta	DVC, DSTPS, Andar	01-07-24	15-07-24	Vocational Training
15	12000121069	Anwika singh	Webel-Fujisoft-Vara, Centre of Excellence, Industry4.0, Jodthbhim Newtown New Town West Bengal India	04-07-24	31-07-24	Perform feature selection algorithm on heart failure dataset
16	12000121062	ARPITA MAHADANI	CELEBAL TECHNOLOGIES	20-05-24	20-07-24	DATA ENGINEERING
17	12000121089	Debjeet Mukherjee	Central Mechanical Engineering Research Institute ,Durgapur /Mahatma Gandhi Rd, opposite NIT, City Center, Durgapur, West Bengal 713209 /Internship is confirmed	25-06-24	24-07-24	Leveraging Particle Swarm Optimization in Neural Networks
18	12000121042	MANAS KUMAR DAS	CELEBEL TECHNOLOGIES	20-05-24	20-07-24	DATA SCIENCE

19	12000121079	KETOKI MAITY	CELEBAL TECHNOLOGIES	03-06-24	03-08-24	SQL
20	12000121083	Subhasree Maji	Celebal Technologies	03-06-24	03-08-24	SQL
21	12000121007	SUBHAYU DUTTA	Celebal Technologies	20-05-24	20-07-24	Data Science
22	12000121130	Faizan Alam	Celebal Technologies from Jaipur, Rajasthan	20-05-24	23-08-24	Data Science
23	12000121086	INDRAJIT KHAN	Webel Fujisoft Vara Centre of Excellence in Industry 4.0 in Plot No - 2222 Action Area - IIIA, Jothbhim, Baligari, New Town, Kolkata, Pin - 700156, West Bengal, India	04-07-24	31-07-24	DATA ANALYTICS
24	12000121036	Joydeep Mallick	Celebal Technologies, Remote	20-05-24	31-08-24	Data Engineering
25	12000121093	SUVAJIT GARAI	Webel Fujisoft Vara Centre of Excellence in Industry 4.0 in Plot No - 2222 Action Area - IIIA, Jothbhim, Baligari, New Town, Kolkata, Pin - 700156, West Bengal, India	04-07-24	31-07-24	Data Analytics
26	12000121052	DIPANITA MALLICK	Celebal Technologies Jaipur, Rajasthan(remote)e)	20-05-24	20-07-24	Node Js
27	12000121091	PALLABI MUKHERJEE	CSIR-Central Mechanical Engineering Research Institute	24-06-24	24-07-24	Anomaly Detection, Classification and Forecasting in Time- Series Datasets using Transformer-based Moment
28	12000121120	ANISHA PAUL	CSIR-CMERI(Central Mechanical Engineering Research Institute)	24-06-24	24-07-24	Anomaly Detection, Classification and Forecasting in Time series datasets using Transformer based model MOMENT
29	12000121076	Rishabh Pratik	Celebal Technologies	20-05-24	20-07-24	Data Science Intern
30	12000121080	ANKITA BANDYOPADH YAY	Celebal Technologies Private limited / Remote	20-05-24	31-08-24	Data Engineering
31	12000121008	Aiyush Banerjee	Celebal Technologies	20-05-24	20-07-24	Data Science
32	12000121013	Soumyadeep Garai	Celebel Internship	20-05-24	20-07-24	Data Engineering
33	12000121074	Mohammad Imran Mallick	Celebel Technologies (Remote)	20-05-24	20-07-24	Data Science
34	12000121087	Atif Jawed	Celebal Technologies(Remote)	20-05-24	20-07-24	Data Science

35	12000121070	Jaydev Sarkhel	WEBEL FUJISOFT VARA CENTRE OF EXCELLENCE , ACHARYA MAHAPRAGYA MAHASHRAMAN, Jodthbhim, Newtown, New Town, West Bengal 743502	04-07- 24	31-07- 24	Data Analytics
36	12000121015	Avinav Chatterjee	CSIR - CMERI, Mahatma Gandhi Avenue, Durgapur - 713209, West Bengal, INDIA	25-06- 24	25-07- 24	"Importance of Machine Learning in Irrigation Scheduling for Agricultural Applications
37	12000121016	Suprakash Gorai	Celebal Technologies	20-05- 24	20-07- 24	Nodejs Developer
38	12000121017	Bratajit Das	Celebal Technologies	20-05- 24	20-07- 24	Data Science
39	12000121098	ARKAPRIYA SINHA	CSIR CMERI DURGAPUR	25-06- 24	24-07- 24	Object detection inder low light conditions.
40	12000122135	Jhuma Roy	ECL , Kajora	01-07- 24	31-07- 24	Industrial Training
41	12000121022	Prity Singh	Celebal Technologies , Address- Remote(Online)	03-06- 24	03-08- 24	Data Science
42	12000121094	Jaydip Dutta	WEBEL FUJISOFT VARA : Centre of Excellence in Industry 4.0 in Plot No - 2222 Action Area - IIIA, Jothbhim, Baligari, New Town, Kolkata, Pin - 700156, West Bengal, India	04-07- 24	31-07- 24	Data Analytics
43	12000121073	Kankan chatterjee	Webel Fujisoft Vara Centre of Excellence in Industry 4.0 in Plot No - 2222 Action Area - IIIA, Jothbhim, Baligari, New Town, Kolkata, Pin - 700156, West Bengal, India	04-07- 24	31-07- 24	Data Analytics
44	12000121001	Arpana Kumari	Virtual Mode	20-05- 24	20-07- 24	Data science
45	12000121023	Anjali Kumari	Celebal Technology	03-06- 24	03-08- 24	SQL
46	12000121061	SOHAM BONDYAPADH YAY	Webel Fujisoft Vara,Kolkata	01-07- 24	31-07- 24	Data Analytics
47	12000121071	OM KUMAR MAHATO	Celebal Technologies	20-05- 24	23-08- 24	Data science
48	12000121049	DIPAYAN MAJUMDER	Celebal Technologies	20-05- 24	20-07- 24	Data Science Intern
49	12000121003	Abhishek Dasgupta	Ground0, 91springboard, Vikhroli East, Mumbai - 400077	26-02- 24	30-08- 24	Machine Learning Intern (Generative AI)
50	12000121054	Subrata Kundu	Celebal Technologies	20-05- 24	20-07- 24	Data Science

51	12000121020	Sandeep Karmakar	Celebal Technologies	20-05-24	20-07-24	Data Engineering
52	12000121096	TRISHA KABIRAJ	CSIR-Central Mechanical Engineering Research Institute Mahatma Gandhi Avenue, Durgapur - 713209, West Bengal, INDIA	25-06-24	24-07-24	Deep Learning based Detection of an LED Ring Mounted on an Underwater Docking Platform
53	12000121021	Saptiva Goswami	Celebal Technologies	20-05-24	20-07-24	Data science
54	12000121053	Saikat Saha	Celebal Technologies Private Limited, Jaipur, Rajasthan	20-05-24	20-07-24	Data Science
55	12000121047	Atanu Guchhait	Webel Fujisofvara COE	04-07-24	30-07-24	Data Analytics
56	12000122134	Mukulika Chatterjee	Intuitive Robotics OPC Private Limited	11-02-24	11-05-24	IoT System Development
57	12000121039	Manish Kumar	Webel Fujisof Var, Kolkata	04-07-24	31-07-24	Data Analytics
58	12030621014	Ritabrata Mandal	Celebal Technologies, Jaipur, Rajasthan; mode: online	20-05-24	20-07-24	Data Science
59	12000121119	RAJSHREE SINGH	CMERI - DURGAPUR, CELEBEL TECHNOLOGIES (ONLINE MODE)	20-06-24	20-08-24	MACHINE LEARNING AND DATA SCIENCE
60	12000121055	Pritam Matya	Remote	20-05-24	20-07-24	Data Engineering
61	12000121004	Sonali Debnath	Celebal Technologies	20-05-24	20-07-24	Data Science
62	12000121012	Ashish Kumar	EY, Mumbai	05-08-24	05-10-24	Engineering innovations, and was assigned to the CNS - TC - TECHNOLOGY STRATEGY and TRANSFORMATION function in Tech Consulting.
63	12000121014	Shuhani singh	Celebal technology	20-05-24	20-07-24	Data Science
64	12000121067	KUMAR MAYANK	Celebal Technologies	20-05-24	23-08-24	Data Science
65	12000121064	Shivam Kumar	CTTC-Bhubaneswar	01-07-24	31-07-24	Artificial intelligence and Machine Learning.
66	12000121043	Garbita Ghosh	Ardent Computech Pvt. Ltd. A1/9 SSB Sarani, Bidhannagar, Durgapur-713212	01-07-24	01-08-24	FULL STACK WEB DEVELOPMENT
67	12000121122	Sayantani Chatterjee	INTUITIVE ROBOTICS (OPC) PRIVATE LIMITED, 56 5, Natun pally, Central Road(East) , Sonarpur, West Bengal - 700150,	10-05-24	10-05-24	Swarm Sos

68	12000121077	Debangshu Hazari	INTUITIVE ROBOTICS (OPC) PRIVATE LIMITED(565, Natunally, Central Road(East) , Sonarpur, West Bengal - 700150)	10-02-24	10-05-24	Iot, ML
69	12000121085	Abhijay Chouhan	Celebal Technologies	20-05-24	20-07-24	Data Engineering
70	12000121046	Sourabh Kumar Thakur	Webel fujisoft Kolkata West Bengal	04-07-24	26-07-24	Data Analytics
71	12000121032	Abhay Maity	Eastern Coalfields Limited, Kajora Area	01-07-24	31-07-24	The Healthy Harvest Grocery Hub
72	12000121027	ANKOOR GORAI	Damodar valley corporation	01-07-24	15-07-24	Thermal project using machine learning
73	12000121035	Abinash Kumar	Celebal Technology , Remote	20-05-24	20-07-24	Celebal Summer Internship Program
74	12000121134	Arpanendu Khag	Celebal Technology	20-05-24	20-07-24	Data Engineering
75	12000122128	Roshan bhagat	Webel fujisoft vara , newtown kolkata	04-07-24	31-07-24	Data analytics
76	12000121090	RAGHIB IMAM	CELEBAL TECHNOLOGIES	20-05-24	20-07-24	DATA ENGINEERING
77	12000121058	Saloni Kumari	CELEBAL TECHNOLOGIES	20-05-24	20-07-24	Data Engineering
78	12000122138	SOURAV KUMAR	DVC Andal Durgapur	01-07-24	15-07-24	Web Development in python
79	12000121075	BISHNU MUKHERJEE	Webel-Fujisoft-Vara, ACHARYA MAHAPRAGYA MAHASHRAMAN, Jodthbhim, Newtown, New Town, West Bengal 743502	01-07-24	31-07-24	Data Analytics
80	12000122136	Debrik Chakraborty	Celebal Technologies	20-05-24	20-07-24	Data Science
81	12000121041	Oishi Sen	Centre for Development of Advanced Computing (C-DAC), Salt Lake Electronics Complex, Plot - E2/1, GP Block, Sector V, Bidhannagar, Kolkata, West Bengal 700091	06-08-24	06-11-24	Development of Multilingual LLM based Intelligent Tutoring Conversational Dialogue System
82	12000121104	Subhadeep Mukherjee	Intuitive robotics private limited, Kolkata	10-02-24	10-05-24	Internet of Things and Machine learning
83	12000121011	HARSH RAJ KUMAR GUPTA	Celebal Technologies , Remote	03-06-24	03-08-24	React Developer
84	12000121105	Aryan Gupta	CELEBAL	20-05-24	20-07-24	Data science
85	12000121068	HARIOM SHARAN	3rd Floor, Pratimalya Shoppee, Shanti Kunj, Patna-801505	08-07-24	29-07-24	WEB DEVELOPMENT

86	12000121040	Shivam Lodh	Celebal Technologies (remote)	20-05-24	08-08-24	Data Engineering
87	12000121095	Tuhin Modak	Intuitive Robotics OPC Pvt. Ltd	01-02-24	01-05-24	End- to-end IoT System Development
88	12000121123	Aditi Chatterjee	Infosys Springboard	03-10-24	05-12-24	Artificial Intelligence and Machine Learning
89	12000121078	DEBARUN DAS	Celebal Technologies,celebaltech Mansarovar, Jaipur - Rajasthan	20-05-24	20-07-24	DATA SCIENCE
90	12000121066	Saikat Ghosh	Salesforce	19-07-24	19-08-24	Salesforce developer
91	12000121139	Dharanija Vandana	Infosys Springboard	03-10-24	05-12-24	Interactive AI storyteller
92	12000121142	Anup Das	AICTE Idea Lab , BCREC, Durgapur	01-08-24	31-08-24	Manufacturing of Smart Hound equipped with face recognition and threat alert system aided with laser cutter
93	12000121121	Kaustav Dey	AICTE Idea Lab, BCREC, Durgapur	01-08-24	31-10-24	Manufacturing of Smart Hound equipped with Face Recognition & Threat Alert System aided with LASER Cutter
94	12000121143	Ankush Ghosh	AICTE IDEA Lab, Dr. B.C. Roy Engineering College, Durgapur	01-08-24	31-08-24	Manufacturing of Smart Hound equipped with Face Recognition & Threat Alert System aided with LASER Cutter
95	12000121125	BHAIRAB MAHATO	Celebal Technologies Private limited	20-05-24	20-07-24	Data Science
96	12000121092	Sumantra Bandyopadhyay	Intuitive Robotics OPC Pvt. Ltd.	10-02-24	10-05-24	Researcher and Development Intern
97	12000121100	DIKSHITA BOSE	CELEBAL Technologies	20-05-24	20-07-24	Data Science domain

C. Student feedback on training/internships and its analysis (03)

Table 2.3.5: Student feedback on training/internships for batch 2023-24

University Roll No	Name of the Students	Company name	Name of the area of Internship / Training.	Overall, how would you rate your internship experience?	Rate your expectation level about the internship	Were you provided with the necessary modern tools and resources to perform your tasks effectively?	If yes then name the modern tools and resources	How would you rate the clarity of your project/training/internship?	Were project /training /internship timelines and deadlines reasonable?	Did the internship contribute to your technical and professional skills development?	If yes/partial then you mention the new technical skills developed
12000120073	Sumit Dhar	DVC DSTPS ANDAL	Computer Engineer Trainee	4	4	NO	NA	5	YES	YES	POWER BI
12000120059	Shivam Kr Chaudhary	Celebal Technologies	Data Science	5	5	NO	NA	5	YES	YES	Data Science
12000121108	Mimo Patra	3s Groomers	Full Stack Developer	4	4	NO	Na	4	YES	YES	Flutter a payment integration understanding
12000120041	Ankit Chatterjee	DVC DSTPS Andal	SDE Internship	5	5	NO	.	3	YES	YES	Projects
12000120054	Ayush Prasad	Birla Corporation Limited	Durgapur cement works	5	5	YES	A personal desk, with a personal computer, with all the software installed.	5	YES	YES	I learned lot of things about Oracle forms and report creation. Also learned a lot of things about plSql.
12001321073	Subhajit Dandapat	PWD	From PWD Asansol Division	4	4	NO	No	4	YES	YES	Scaffolding, plastering
12001321052	Sabyasachi Nandi	THE DURGAPUR PROJECT LIMITED (DPL)	Durgapur power plant , DPL colony.	3	3	NO	Na.	3	YES	YES	How to treatmen the waste water in various process.
12000120043	Pragya Priya	Anovatech institute of crystalline technology pvt ltd	Core java with dbms	5	5	YES	Laptops	5	YES	YES	Core java DBMS

12000120086	Debtirtha Roy	Durgapur Steel Plant (SAIL)	Vocational Training	5	5	NO	NA	5	NO	YES	We get to know the working of a Steel Plant
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Table 2.3.6: Student feedback on training/internships for batch 2024-25

University Roll No	Name of the Student	Company Name	Title of Internship / Training.	Duration in days	Overall, how would you rate your internship experience?	What was your expectation level from the internship/ VT	Were you paid for the Internship? If paid what is the amount? if not applicable write NA	Were you provided with the necessary modern tools and resources to perform your tasks effectively?	If yes then name the modern tools and resources	How would you rate the clarity of your project/training/internship?
12000321033	AKSHAT DUBEY	DURGAPUR PROJECTS LIMITED	Instrumentation	31	4	4	NA	NO	NA	4
12000321083	SUDIP PAL	Jadavpur University	VLSI Design and Micro electronics Technology	42	5	5	5900	Partially	NA	4
12001621063	MD KAIF	CLW	Vocational training	4 weeks	5	5	Na	Partially	Na	5
12031521039	SUDEEP KUMAR	Webel FujiSoft Vara Centre of Excellence 4.0	Data analytics	5 hours	3	3	3540	NO	Python	4
12031521029	Srinjan Patra	Globsyn Business School	Machine learning with Python	1 months	5	5	Paid internship of Rs4000	Partially	NA	5
12000722010	Shyamaprasad Chakraborty	DSTPS DVC, ANDAL	Summer Internship at DSTPS DVC, Andal	15	5	5	1000	NO	NA	5

12000321005	Sumit Ram	BSNL-Burdwan	Training and Internship	30	4	5	4000	Partially	Sanchar Sathi telecom software, PE Router	4
12000321155	Soumyajit Baul	Jadavpur University	Short term summer training on embedded systems and IoT	30	4	5	NA	YES	Xilinx Vivado, arduino uno, basys 3	4
12000321053	SOUDEEP GHOSH	BSNL BURDWAN	Telecom Technology & Network	28 Days	5	4	4000	YES	Optical Time Domain Reflectometer, Synchronous and Plesiochronous Digital Hierarchy, Base Transceiver Station, Network Management Systems, E-Side of BSNL Online.	4

2.4 Seminar and Mini/Micro Projects (10)

2.4. Seminar and Mini/Micro Projects (10)

A. Mapping of Seminars presented by the students with POs and PSOs (05)

Seminar Presented

A seminar presented by students offers many educational benefits. It helps students improve their communication and public speaking skills by giving them the opportunity to present on a topic they are passionate about. A seminar enhances their knowledge of the subject and develops research skills as they collect and analyze information from different sources. Seminars also build critical thinking through discussions and question-answer sessions. In addition, students learn time management, teamwork, and presentation techniques, which are valuable skills for their future careers. Student seminar presentations contribute significantly to both personal and intellectual development.

Objectives

1. To enhance knowledge and understanding of a specific topic.
2. To develop research and information-gathering skills.
3. To improve communication and public speaking abilities.
4. To build self-confidence and reduce stage fear.
5. To develop critical thinking and analytical skills.
6. To encourage active participation in the learning process.
7. To improve presentation and organizational skills.
8. To promote teamwork and collaboration among students.
9. To encourage the exchange of ideas and knowledge.
10. To prepare students for future academic and professional presentations.

PO & PSO Addressed:

PO2: Analyze and understand complex technical problems, research findings, and emerging technologies.

PO4: Investigate literature, collect information, evaluate results, and draw conclusions.

PO10: Develop effective oral, written, and presentation communication skills.

PSO1: Seminar topics require students to study, analyze, and apply computer science concepts to understand and discuss real-world technological problems and solutions.

PSO3: Seminars often focus on emerging technologies such as AI, Machine Learning, Cloud Computing, Cyber Security, IoT, Blockchain, and Data Analytics, enabling students to stay updated with the latest advancements.

Students in a group presents seminar on technical report during session examination of 1st and 2nd semester under university curriculum.

Each student presents seminar on a distinct topic of every course during continuous assessment 1 (CA1) under university curriculum.

Table 2.4.1: Sample seminar presentation topics on a course for continuous assessment 1

Dr. B. C. Roy Engineering College, Durgapur		
Course __Database Management Systems__		
Department of _____CSE_____		
Continuous Assessment 1		
University Roll No of student	Name of the student	Seminar Presentation Topic
12000123001	AAKANCHHA SINGH	DBMS Architecture Overview
12000123002	ABHIJ DEY	
12000123003	ABHIJ MUKHERJEE	
12000123004	ABHISHEK KUMAR	

12000123005	ADITI BANERJEE	Three-Level Architecture (ANSI-SPARC)
12000123006	ADITYA BHARDWAJ	
12000123007	AJOY GHOSH	
12000123008	ALOLIKA GUPTA	
12000123009	AMAN CHOWDHURY	Data Abstraction Levels
12000123010	AMAR MAHATO	
12000123011	ANANDI DEBNATH	
12000123012	ANIKET BANERJEE	
12000123013	ANINDITA DUTTA	Components of DBMS Architecture
12000123014	ANIRUDDHA BISWAS	
12000123015	ANISH DEBNATH	
12000123016	ANKIT GHOSH	
12000123017	ANSHU KASHYAP	Concept and Types of Data Independence
12000123018	ANUSHREE BANERJEE	
12000123019	ARCHAK KHANDAYIT	
12000123020	ARCHISMITA DAS	
12000123021	ARITRAJIT GUHA	Entity-Relationship (ER) Model
12000123022	ARKAPRAVA MAITY	
12000123023	ARNAB GHOSH	
12000123024	ARNAB MAITY	
12000123025	ARPIT MISHRA	Relational Data Model
12000123026	AYAN MAZUMDAR	
12000123027	AYANTIKA MONDAL	
12000123028	AYON PAUL	
12000123029	AYUSH RAJ	Keys in Relational Model
12000123030	AYUSHI MAITY	
12000123031	BINIT MISTRY	
12000123032	BISWAJIT PAL	
12000123033	BRISTI KUNDU	DBMS Architecture Overview
12000123034	DEBASIS MAHATA	
12000123035	DEBOJYOTI NATH	
12000122029	KOUSHIKI CHAKRABORTY	
12000123036	DEV KUMAR ROY	Three-Level Architecture (ANSI-SPARC)
12000123037	DIBYENDU GHOSH	
12000123038	DIKSHA MISHRA	
12000123039	GAURAV KUMAR	
12000123040	HARIOM SARRAF	Data Abstraction Levels
12000123041	KAUSHANI KONER	
12000123043	KOYEL KUMAR	
12000123044	KRISHAN SARKAR	

12000123045	MANISH KUMAR MAJI	Components of DBMS Architecture
12000123046	MANYA	
12000123047	MARMA BISWAS	
12000123048	MAUSAM JHA	
12000123049	MAYANK MANOHAR	Concept and Types of Data Independence
12000123050	MD EZAZULLAH	
12000123051	MD SAQUIB JAMSHED KHAN	
12000123052	MONORANJAN PAL	
12000123053	MOU BISTU	Entity-Relationship (ER) Model
12000123054	MUKUND KUMAR JHA	
12000123055	NASRIN PHERDOWSI	
12000123056	NIRNIT ROY	
12000123057	POULAMI DEY	Relational Data Model
12000123058	PRITAM DUTTA	
12000123059	PRITAM KUMAR	
12000123060	PRITHHIB NANDI	
12000123061	RAHIT JANA	Keys in Relational Model
12000123062	RAHUL GUPTA	
12000123063	RAHUL PODDAR	
12000123064	RAKESH MUKHERJEE	
12000123065	RANIT MAJUMDAR	Constraints in Relational Model
12000123066	RAVI JHA	
12000123067	RITAJA MUKHERJEE	
12000123068	RITAM DAN	

B. Mapping of the mini/micro project and their contribution with POs and PSOs (05)

Mini/Micro Projects

(MINI/ MICRO Projects within the Course, Training Projects, Mentor Given Projects)

Mini and micro projects help engineering students apply theoretical knowledge to practical problems. They enhance technical skills, creativity, and problem-solving with tools, technologies, and engineering concepts. Students also develop teamwork, communication, and project management skills. Overall, mini and micro project challenges.

Objectives

1. To enhance students understanding of emerging technologies and current industry trends.
2. To develop research, analytical, and problem-solving skills through independent learning.
3. To improve technical presentation, communication, and report-writing abilities.
4. To provide hands-on experience in designing and implementing engineering solutions.
5. To encourage teamwork, innovation, and project management skills.

PO & PSO Addressed:

PO1: Engineering Knowledge

Apply the knowledge of mathematics, science, engineering fundamentals, and specialized domain knowledge to identify and solve technical problems.

PO2: Problem Analysis

Analyze complex engineering problems, identify relevant factors, and develop appropriate solutions using critical and analytical thinking.

PO3: Design/Development of Solutions

Design and develop innovative solutions, models, or prototypes to address real-world engineering challenges while considering practical constraints.

PO9: Individual and Team Work

Function effectively as an individual and as a member or leader in diverse teams, demonstrating responsibility, collaboration, and leadership skills.

PSO1: Achieved through the application of computer science principles and problem-solving techniques to solve practical engineering problems.

PSO2: Achieved by designing and developing project-based software solutions using modern programming languages, tools, and development platforms.

PSO3: Achieved through the integration of emerging technologies and innovative approaches to address societal and industrial challenges.

Benefits for Employability and Career Development

1. Strengthens technical and domain knowledge relevant to industry requirements.
2. Enhances communication, teamwork, and leadership skills valued by employers.
3. Provides project experience that can be showcased in resumes, interviews, and placement drives.
4. Develops problem-solving and analytical capabilities essential for technical job roles.
5. Improves readiness for internships, campus placements, higher studies, and research opportunities.
6. Builds confidence in presenting ideas, discussing technical concepts, and working in professional environments.
7. Helps students acquire industry-oriented skills that increase their employability and career prospects.

Table 2.4.2: List of student on Mini/Micro Projects in Academic Year 2025-26

Sl. No.	Universiry Roll Number	Name	Title of Project (MINI/ MICRO Project)	Organizing Institute	Month and Year of Submission & Certificate Issuing Month
1	12000122053	ARNAB GUHA	MOVIE RECOMMENDATION SYSTEM	BCREC, DURGAPUR	May,2026
2	12000122087	PRADIP CHATTERJEE	MOVIE RECOMMENDATION SYSTEM	BCREC, DURGAPUR	May,2026
3	12000123013	ANINDITA DUTTA	COLLABSPHERE	INDIQUANT	May,2026
4	12000123021	ARITRAJIT GUHA	SkillSync (Smart intern-employer skill matcher)	Hackathon	May, 2026
5	12000123038	Gaurav Kumar	HR ANALYTICS DASHBOARD	CTTC	Feb-26
6	12000123093	Simran Kumari	Personal Finance Tracker	BCREC, Durgapur	May-26
6	12000123093	Simran Kumari	Finance Tracker	BCREC, Durgapur	May-26
7	12000123117	SWEETY PAUL	SkillSync (Smart intern-employer skill matcher)	Hackathon	May, 2026
7	12000123123	VICKY RAJ	HR ANALYTICS DASHBOARD	CTTC	Feb-26

8	12000123133	Srabani Das	CREATIVE DESIGN AND DIGITAL ART USING NCA	BCREC,DURGAPUR	May-26
9	120001243009	TANUSHREE MAHATA	Sales Performance Dashboard (Power BI)	SYNTECXHUB INTERNSHIP PROGRAM	May, 2026
10	12000122020	Survi Mukherjee	Kavach SecureComm	Personal	April,2026
11	12000123013	ANINDITA DUTTA	HEALTHAMTE-AI	PERSONAL	April,2026
12	12000123013	ANINDITA DUTTA	CAREER CHATBOT	PERSONAL	April,2026
13	12000123021	ARITRAJIT GUHA	DevAgent (AI-powered intelligent CLI for developers)	Personal	April, 2026
14	12000123021	ARITRAJIT GUHA	Supply_Track (IoT-powered AI supply chain monitoring)	Hackathon	April, 2026
15	12000123100	Soumi Das	SupplyLens - AI-Powered Supply Chain Mangement System	Google Solution Challenge	28-04-2026
16	12000123117	SWEETY PAUL	Supply_Track (IoT-powered AI supply chain monitoring)	Hackathon	April,2026
17	12000123117	SWEETY PAUL	DevAgent (AI-powered intelligent CLI for developers)	Personal	April, 2026
18	12000123120	TANUSHREE MONDAL	ElixNode_Digital Twin	Hackathon	April, 2026
19	120001243011	Aranyak Samui	Distributed PUB/SUB Chat Node	Self	Apr-26
20	120001254013	ANANYA BISWAS	AI TOOLS workshop	be10x	April,2026
21	12000122062	Swati Dubey	CodeSage	BCREC,Durgapur	Mar-26
22	12000122082	Kumar Hrishav	Smart Parking Availability Prediction	BCREC, Durgapur	Mar-26
23	12000122084	ANUSHA CHANDA	Alzheimer's MRI Classification using ML	BCREC	March 2026
24	12000122107	Trishna Bhattacharjee	Alzheimer's MRI Classification using ML	BCREC	March,2026
25	12000123003	ABHIK MUKHERJEE	UCL Data Analytics Dashboard (Tableau)	CTTC Bhubaneswar	Mar-26
26	12000123024	ARNAB MAITY	AWS Web Hosting	CTTC Bhubaneswar	Mar-26

27	12000123027	AYANTIKA MONDAL	Data Analytics Dashboard (Tableau)	CTTC Bhubaneswar	Mar-26
28	12000123075	Sagnik Bera	Data Analytics Dashboard (Tableau)	CTTC Bhubaneswar	Mar-26
29	12000123103	Srestha Kundu	Amazon Prime Dashboard(Tableau)	Personal	March,2026
30	12000123125	Vishal kumar Roy	DIGITAL HEALTHCARE APPOINTMENT MANAGEMENT SYSTEM	BCREC,DURGAPUR	Mar-26
31	12000123125	Vishal kumar Roy	Smart Email Classifier	BCREC,Durgapur	Mar-26
32	12000123126	Rishika Burnwal	Patient-Doctor Appointment management system	BCREC,Durgapur	Mar-26
33	12000123126	Rishika Burnwal	Smart Email Classifier	BCREC,Durgapur	Mar-26
34	120001243007	SOURAV TANTI	Real Time Emotion Detection	CTTC BHUBANESWAR	February, 2026
35	12000122062	Swati Dubey	Spam-Email Classification	BCREC,Durgapur	Feb-26
36	12000122081	Sandip Paul	End to End DevOps Implementation on an E-Commerce	UDEMY	Feb-26
37	12000123001	AAKANCHH A SINGH	Real-Time Emotion Detection	CTTC Bhubaneswar	Feb-26
38	12000123003	ABHIK MUKHERJEE	Netflix Data Analytics Dashboard (Tableau)	CTTC Bhubaneswar	Feb-26
39	12000123003	ABHIK MUKHERJEE	HR Analytics Dashboard (Excel)	CTTC Bhubaneswar	Feb-26
40	12000123004	ABHISHEK KUMAR	Real-Time Emotion Detection	CTTC Bhubaneswar	Feb-26
41	12000123013	ANINDITA DUTTA	MARINE AXIS	INFOSYS SPRINGBOARD	Feb,2026
42	12000123023	ARNAB GHOSH	Real-time emotion detection	CTTC Bhubaneswar	February, 2026
43	12000123024	ARNAB MAITY	Cloud Computing	CTTC Bhubaneswar	Feb-26
44	12000123027	AYANTIKA MONDAL	Netflix Data Analytics Dashboard (Tableau)	CTTC Bhubaneswar	Feb-26
45	12000123027	AYANTIKA MONDAL	HR Analytics Dashboard (Excel)	CTTC Bhubaneswar	Feb-26
46	12000123028	AYON PAUL	Real-time emotion detection	CTTC Bhubaneswar	February, 2026
47	12000123032	Biswajit Pal	Real Time Emotion Detection	CTTC Bhubaneswar	February, 2026

48	12000123036	Dev Kumar roy	Hr analyst dashboard	cttc bhubaneswar	Feb-26
49	12000123041	Kaushani Koner	Own Portfolio	Self	February,2026
50	12000123044	Krishan Sarkar	Emotion Detection System	CTTC Bhubaneswar	February, 2026
51	12000123060	Prithhib Nandi	Real Time Emotion Detection	CTTC Bhubaneshwar	Feb-26
52	12000123070	Rohit Kumar	Real Time Emotion Detection	CTTC Bhubaneshwar	Feb-26
53	12000123073	Ruchi Kumari	Real Time Emotion Detection	CTTC Bhubaneshwar	Feb-26
54	12000123075	Sagnik Bera	Netflix Data Analytics Dashboard (Tableau)	CTTC Bhubaneswar	Feb-26
55	12000123075	Sagnik Bera	HR Analytics Dashboard (Excel)	CTTC Bhubaneswar	Feb-26
56	12000123093	Simran Kumari	Real Time Emotion Detection	CTTC Bhubaneshwar	Feb-26
57	12000123096	Sneha Roy	Data Analytics Dashboard(Tableau)	CTTC Bhubaneshwar	February,2026
58	12000123103	Srestha Kundu	Data Analytics Dashboard (Tableau)	CTTC Bhubaneswar	February,2026
59	12000123103	Srestha Kundu	Netflix Data Analytics Dashboard (Tableau)	CTTC Bhubaneswar	February,2026
60	12000123108	SUJOY GARAI	RAGENGINE	Personal	Feb-26
61	12000123118	Swetab Baranwal	Real Time Emotion Detection System using Artificial intelligence and machine learning	CTTC BHUBANESWAR	Feb-26
62	12000123125	Vishal kumar Roy	Real-Time Emotion Detection	CTTC Bhubaneswar	Feb-26
63	12000123126	Rishika Burnwal	Real Time Emotion Detection	CTTC Bhubaneshwar	Feb-26
64	120001243001	ANICK ROY	Real Time Emotion Detection	CTTC Bhubaneswar	February, 2026
65	120001243004	ATISH CHAKRABORTY	Real time emotion Detection	CTTC Bhubaneswar	Feb-26
66	120001243009	TANUSHREE MAHATA	Data Analytics Dashboard (Tableau)	CTTC Bhubaneswar	February, 2026
67	120001243009	TANUSHREE MAHATA	Netflix Data Analytics Dashboard (Tableau)	CTTC Bhubaneswar	February, 2026
68	120001243009	TANUSHREE MAHATA	HR Analytics Dashboard (Excel)	CTTC Bhubaneswar	February, 2026

69	120001243015	Tithi Saha	Real Time Emotion Detection	CTTC Bhubhaneswar	Feb-26
70	12000123023	ARNAB GHOSH	Vibe Canvas: Creative Generation	BCREC, Durgapur	December, 2025
71	12000123028	AYON PAUL	Vibe Canvas : Creative Generation Platform	BCREC, Durgapur	December, 2025
72	12000123032	Biswajit Pal	Vibe Canvas: Creative Generation	BCREC	December, 2025
73	12000123126	Rishika Burnwal	Food Order Management System	BCREC,Durgapur	Oct-25
74	12000123023	ARNAB GHOSH	SkillBite: An AI-Powered Micro-Learning Platform	BCREC, Durgapur	September, 2025
75	12000123028	AYON PAUL	SkillBite: An AI-Powered Micro-Learning Platform	BCREC, Durgapur	September, 2025
76	12000122005	SHREYAK MUKHERJEE	Emotion detection and Music Recommendation System	Infosys, Remote	September, 2025
77	12000122027	MANIKA SARKAR	AI Model for Dog Breed Detection and Information Generation	INFOSYS	November,2025
78	12000123013	ANINDITA DUTTA	REAL TIME EMOTION DETECTION	CTTC,BHUBANESHWAR	January,2026
79	12000123032	Biswajit Pal	Chatify - A chat app	Self	January, 2026
80	12000123043	Koyel Kumar	MediBot	Self	January,2026
81	12000123096	Sneha Roy	Netflix Data Analytics Dashboard(Tableau)	CTTC Bhubaneshwar	January,2026
82	12000123100	Soumi Das	MovieMatrix - TMDB API powered movie discovery platform	Personal	Jan,2026
83	12000123103	Srestha Kundu	HR Analytics Dasboard(Excel)	CTTC Bhubaneswar	January,2026
84	12000123108	SUJOY GARAI	RAG Microservic	Personal	Jan-26
85	12000123108	SUJOY GARAI	CrisisIQ	Group	Jan-26
86	12000123109	SUMAN GORAI	Travel Accommodation Platform	Personal	January,2026
87	120001243004	ATISH CHAKRABORTY	BCREC- Infrastructure Management System	Hackzenith 2025	Jan-26

88	120001243010	Anirban Bairagya	BCREC-Infrastructure Management System	Hackzenith 2025	Jan-26
89	120001243011	Aranyak Samui	BCREC-Infrastructure Management System	Hackzenith 2025	Jan-26
90	120001243015	Tithi Saha	IgniteX 2.0	IMI Kolkata	Jan-26
91	12000122020	Survi Mukherjee	Occupancy Estimation using AQI Prediction	NIT Durgapur	July,2025
92	12000122020	Survi Mukherjee	Decentralized Railway Tracking and Anti Collision System	SIH 2025	December,2025
93	12000122028	SHIVWANGI BANERJEE	Fake-News-Detection-using-NLP-and-Machine-Learning	BCREC,Durgapur	Dec-25
94	12000122054	Prerana Basak	Customer Churn Prediction	Celebal Technologies	Dec,2025
95	12000122062	Swati Dubey	WonderLust	BCREC,Durgapur	Dec-25
96	12000122082	Kumar Hrishav	Plant leaf disease detection	Edunet Foundation	Dec-25
97	12000123001	AAKANCHH A SINGH	Symptom Checker Chatbot	BCREC, Durgapur	Dec-25
98	12000123002	ABHIK DEY	CollabHub - realtime collaboration platform	BCREC, DURGAPUR	Dec-25
99	12000123003	ABHIK MUKHERJEE	CollabHub - realtime collaboration platform	BCREC, DURGAPUR	Dec-25
100	12000123004	ABHISHEK KUMAR	CollabHub - realtime collaboration platform	BCREC, DURGAPUR	Dec-25
101	12000123005	ADITI BANERJEE	HealthMate - AI Health Companion	BCREC, Durgapur	Dec-25
102	12000123005	ADITI BANERJEE	Hospital Management System	BCREC, Durgapur	Dec-25
103	12000123021	ARITRAJIT GUHA	CollabHub (Real-time collaborative team workspace)	BCREC, DURGAPUR	Dec-25
104	12000123024	ARNAB MAITY	Notice Management System	BCREC,DURGAPUR	Dec-25
105	12000123024	ARNAB MAITY	Personal Finance Tracker	BCREC,DURGAPUR	Dec-25
106	12000123027	AYANTIKA MONDAL	Fake news Detection	BCREC,Durgapur	Dec-25
107	12000123027	AYANTIKA MONDAL	Railway Management System	BCREC,Durgapur	Dec-25

108	12000123058	Pritam Dutta	E2E Chat Room with Encryption	BCREC,Durgapur	Dec-25
109	12000123060	Prithhib Nandi	E2E Chat Room with Encryption	BCREC,Durgapur	Dec-25
110	12000123070	Rohit Kumar	Library management system	BCREC,Durgapur	Dec-25
111	12000123073	Ruchi Kumari	Library management system	BCREC,Durgapur	Dec-25
112	12000123093	Simran Kumari	Library Management system	BCREC, Durgapur	Dec-25
113	12000123106	Subhayu Panja	OFFLINE Based Smart Rail-Tracking System using Active-RFID Modules	FORGE,Coimbatore, Tamil Nadu	December, 2025
114	120001243004	ATISH CHAKRABORTY	Personal Finance Tracker	BCREC, Durgapur	Dec-25
115	12000122006	GOKUL PAL	Real-time Flame Intensity Classification using TinyML	BCREC, DURGAPUR	Sep 2025`
116	12000122021	RIMA GORAI	Real-time Flame Intensity Classification using TinyML	BCREC, DURGAPUR	Sep 2025`
117	12000122027	MANIKA SARKAR	Conversational Data Analysis with LLMs	AICTE, VOIS & EDUNET	October, 2025
118	120001243001	ANICK ROY	Online Quiz Application	BCREC, Durgapur	November, 2025
119	120001243011	Aranyak Samui	Zoho Cliqtrix26	Zoho Cliqtrix	Nov-25
120	12000122020	Survi Mukherjee	Neo Venue	Personal	October, 2025
121	12000123002	ABHIK DEY	Employee payroll system	BCREC, DURGAPUR	Oct-25
122	12000123019	Archak Khandayit	Order Management System	BCREC	Oct-25
123	12000123041	Kaushani Koner	Crime Investigation System	BCREC,Durgapur	October, 2025
124	12000123041	Kaushani Koner	Order Management System	BCREC,Durgapur	October, 2025
125	12000123043	Koyel Kumar	Crime Identification System	BCREC,Durgapur	October, 2025
126	12000123043	Koyel Kumar	Airline Management System	BCREC,Durgapur	October, 2025
127	12000123044	Krishan Sarkar	E2EChatroom with video call feature	BCREC,DURGAPUR	October, 2025

128	12000123058	Pritam Dutta	Airline Management System	BCREC,DURGAPUR	Oct-25
129	12000123060	Prithhib Nandi	Airline Management System	BCREC,Durgapur	Oct-25
130	12000123070	Rohit Kumar	E-kart Management System	BCREC,Durgapur	Oct-25
131	12000123073	Ruchi Kumari	E-kart Management System	BCREC,Durgapur	Oct-25
132	12000123077	SANGRAMJI T BAKSI	Order Management System	BCREC,Durgapur	Oct-25
133	12000123077	SANGRAMJI T BAKSI	Employee Payroll System	BCREC,Durgapur	Oct-25
134	12000123093	Simran Kumari	E-Kart Management System	BCREC, Durgapur	Oct-25
135	12000123096	Sneha Roy	Insurance Management system	BCREC, Durgapur	October, 2025
136	12000123100	Soumi Das	4. TriviaTech - Online quiz platform	BCREC, Durgapur	Oct,2025
137	12000123103	Srestha Kundu	1.Hospital Management System	BCREC,Durgapur	October, 2025
138	12000123123	VICKY RAJ	E-KART MANAGEMENT SYSTEM	BCREC,DURGAPUR	Oct-25
139	120001243007	SOURAV TANTI	Employee Payroll System	BCREC, DURGAPUR	October, 2025
140	120001243009	TANUSHREE MAHATA	Airline Reservation System	BCREC , Durgapur	October, 2025
141	12000122004	Lopa Mondal	1.Emotion Classification from Facial Expressions	BCREC, DURGAPUR	April, 2025
142	12000122004	Lopa Mondal	Face Recognition System using LBPH Algorithm	BCREC, DURGAPUR	April, 2025
143	12000122026	Soumyadeep Roy	Multilingual PDF Text-to-Speech Converter with Translation Capabilities	BCREC,DURGAPUR	April, 2025
144	12000122027	MANIKA SARKAR	Deep Learning-Based Image Denoising with Latent Space Analysis	NIT DURGAPUR	September, 2025
145	12000122030	NITISH KUMAR MAHATO	SALARY PREDICTION USING ML	BCREC,DURGAPUR	September, 2025
146	12000122031	Himadri Chandra	Diabetes prediction system	BCREC,DURGAPUR	April, 2025

147	12000122036	Pankaj Kumar Rawani	RiskAware Navigator – Smart Traffic Accident Risk Prediction	BCREC, DURGAPUR	Sept, 2025
148	12000122039	Soumak Halder	Desktop voice assistant using python and ML	BCREC,DURGAPUR	April, 2025
149	12000122062	Swati Dubey	OrbitHire	BCREC,Durgapur	Sep-25
150	12000122083	Suhani Singha	E-Mert Website Design	Ardent Computech pvt	July,2025
151	12000123001	AAKANCHH A SINGH	Online Voting System	BCREC, Durgapur	Sep-25
152	12000123002	ABHIK DEY	Online Exam System	BCREC, DURGAPUR	Sep-25
153	12000123003	ABHIK MUKHERJEE	Online Examination System	BCREC, DURGAPUR	Sep-25
154	12000123004	ABHISHEK KUMAR	Online Exam System	BCREC, DURGAPUR	Sep-25
155	12000123005	ADITI BANERJEE	FlipNFind: A Memory Flip Card Game	BCREC, Durgapur	Sep-25
156	12000123019	Archak Khandayit	URLINK: URL Shortener	BCREC	Sep-25
157	12000123021	ARITRAJIT GUHA	Online Examination System (Real-time proctored exam platform)	BCREC, DURGAPUR	Sep-25
158	12000123024	ARNAB MAITY	Event Management System	BCREC,DURGAPUR	Sep-25
159	12000123027	AYANTIKA MONDAL	URL link shortener	BCREC,Durgapur	Sep-25
160	12000123036	Dev Kumar roy	Bank withdrawal detection	BCREC	Sep-25
161	12000123044	Krishan Sarkar	Payment Gateway System using Java Frameworks	BCREC,DURGAPUR	September, 2025
162	12000123081	SANTU GHOSH	AR-Based Cultural Heritage Preservation Platform	BCREC, DURGAPUR	September, 2025
163	12000123096	Sneha Roy	Railway Management System	BCREC, Durgapur	September, 2025
164	12000123100	Soumi Das	ZestyFlow - A Customer Food Order Management System.	BCREC, Durgapur	Sept, 2025
165	12000123101	Soumyadip Nandi	Online Customer Cab Booking Management	BCREC DURGAPUR	Sep-25

166	12000123103	Srestha Kundu	ZestyFlow-A Customer Food Order Management System	BCREC,Durgapur	September, 2025
167	12000123110	Supreme Dey	Customer Banking Management System	BCREC Durgapur	Sep-25
168	12000123117	SWEETY PAUL	CourseMatrix(Student Course Allotment Management System)	BCREC, DURGAPUR	Sep-25
169	12000123120	TANUSHREE MONDAL	CourseMatrix (Student Course Allotment Management System)	BCREC, Durgapur	September, 2025
170	120001243004	ATISH CHAKRABORTY	SIH 2025 Internal Hackathon (AR Heritage Platform)	SIH 2025	Sep-25
171	120001243007	SOURAV TANTI	Students Teachers Attendance Management System	BCREC, DURGAPUR	September, 2025
172	120001243009	TANUSHREE MAHATA	Students Teachers Attendance Management System	BCREC, Durgapur	September, 2025
173	120001243010	Anirban Bairagya	SIH 2025 Internal Hackathon(AR Heritage Platform)	SIH 2025	Sep-25
174	120001243011	Aranyak Samui	4. SIH 2025 Internal Hackathon (AR Heritage Platform)	SIH 2025	Sep-25
175	120001243015	Tithi Saha	SIH 2025 Internal Hackathon(AR Heritage Platform)	SIH 2025	Sep-25
176	12000122003	SAYAN KUMAR DHAR	Attention-based AQI prediction system	DVC Andal	August, 2025
177	12000122005	SHREYAK MUKHERJEE	Attention-based AQI prediction system	DVC Andal	August, 2025
178	12000122007	SOUNAK MOITRA	Attention-based AQI prediction system	DVC Andal	August, 2025
179	12000122027	MANIKA SARKAR	Student Exam Score Prediction	Celebal Technologies	August, 2025
180	12000122028	SHIVWANGI BANERJEE	1.Salary Prediction System Using Simple Linear Regression	IALSD ,Kolkata	April 2025-August 2025
181	12000122053	ARNAB GUHA	ATTENDANCE MANAGEMENT SYSTEM USING FACE RECOGNITION	DVC,ANDAL	August, 2025

182	12000122059	AANYA SINHA	Salary Prediction System	IALSD ,Kolkata	August, 2025
183	12000122074	Shruti Gupta	MediBot	Celebal Technology	Aug-25
184	12000122083	Suhani Singha	Image Gallery using mern stack	own work	August, 2025
185	12000122085	Rajib Pramanik	Anomaly Detection in Network Traffic	Celebal Technology	Aug-25
186	12000122110	Debleena Maity	Extracting text from images	Celebal Technology	Aug-25
187	12000123021	ARITRAJIT GUHA	LawLink (AI-powered legal resource platform)	Hackathon	July, 2025
188	12000123036	Dev Kumar roy	library management system	BCREC	Aug-25
189	12000123075	Sagnik Bera	QuizBees	BCREC,Durgapur	Aug-25
190	12000123077	SANGRAMJI T BAKSI	Attendance Management System	BCREC,Durgapur	Aug-25
191	12000123081	SANTU GHOSH	PERSONAL FINANCE MANAGER AND TRACKER	BCREC, DURGAPUR	August, 2025
192	12000123116	SWAGATO MAJI	STUDENT COURSE ALLOTMENT MANAGEMENT SYSTEM	BCREC,DURGAPUR	August, 2025
193	12000123117	SWEETY PAUL	LawLink (AI-powered legal resource platform)	Hackathon	July, 2025
194	12000123120	TANUSHREE MONDAL	LawLink (AI-powered legal resource platform)	Hackathon	July, 2025
195	120001243001	ANICK ROY	Student Library Book Issue Management System	BCREC, Durgapur	August, 2025
196	120001243004	ATISH CHAKRABORTY	Cab Booking Management System	BCREC, Durgapur	Aug-25
197	120001243010	Anirban Bairagya	Student Library Book Issue Management System	BCREC, Durgapur	Aug-25
198	120001243011	Aranyak Samui	Attendance Management System	BCREC, Durgapur	Aug-25
199	120001243015	Tithi Saha	Cab Booking Management System	BCREC, Durgapur	August, 2025

200	12000122001	Aneek Maity	Subscription-Tracker:Developed RESTful APIs with route handling, JWT authentication	Vaidsys Solutions	Jun-25
201	12000122001	Aneek Maity	VoiceCloning app: A real-timevoice cloning web app capable of generating personalized speech	IEEE CIS,Kolkata Chapter	Jul-25
202	12000122008	SUMAN CHOWDHURY	Federated Learning with KAN for Personalized Human Activity Recognition	CMERI, Durgapur	July, 2025
203	12000122027	MANIKA SARKAR	Employee Salary Prediction	AICTE, IBM & EDUNET	July, 2025
204	12000122048	Tulika Dutta	Body Posture Detection System	BCREC,DURGAPUR	December, 2024
205	12000122049	Soham Dutta	Framework for Object Detection, Segmentation and Dimensional Analysis of Manufactured Components	CSIR-CMERI,DURGAPUR	July, 2025
206	12000122055	SUMANA CHOWDHURY	Network anomaly detection system	Self	July, 2025
207	12000122072	Ankita Ganguli	Job Transfer Management System (AIMI)	ECL	Jul-25
208	12000122081	Sandip Paul	Job Transfer Management System (Flutter)	ECL	Jul-25
209	12000122082	Kumar Hrishav	Face Detection and Recognition system	CTTC Bhubneswar	Jul-25
210	12000122085	Rajib Pramanik	BSK - Chatbots for operators	Webel	Jul-25
211	12000122087	PRADIP CHATTERJEE	VENDOR MANAGEMENT SYSTEM	ECL,PANDAVESWAR	July, 2025
212	12000122107	Trishna Bhattacharjee	Internet Broadband Service website	Personal	July, 2025
213	12000123041	Kaushani Koner	Clue Climber	BCREC,Durgapur	July, 2025
214	12000123043	Koyel Kumar	Clue Climber	BCREC,Durgapur	July, 2025
215	12000123081	SANTU GHOSH	DEPARTMENT INVENTORY MANAGEMENT SYSTEM	BCREC, DURGAPUR	July, 2025

216	12000123081	SANTU GHOSH	LAWLINK : An Ai Powered Legal Aid Platform For Accessible Justice	BCREC, DURGAPUR	April, 2025
217	12000123108	SUJOY GARAI	PLUG API	Personal	Jul-25
218	120001244116	Ritureema Acharya	AI based Volunteer Attendance System	self	21-07-2025

Table 2.4.3: List of student on Mini/Micro Projects in Academic Year 2024-25

Sl. No.	Universiry Roll Number	Name	Title of Project (MINI/ MICRO Project)	Organizin g Institute	Month and Year of Submission & Certificate Issuing Month
1	12000122033	Toufik Umar Sekh	AI based volunteer attendance system	self	20-06-2025
2	12000122069	Nandini Pandey	Symbolic Analysis of Smart Contracts	IIT Delhi	Jun-25
3	12000122082	Kumar Hrishav	Customer Lifetime Value Prediction Web Application	Celebal Technologies	Jun-25
4	12000123077	SANGRAMJI T BAKSI	AI Restaaurant Prediction System	NIT,Durga pur	Jun-25
5	12000122006	GOKUL PAL	E- commerce Website	BCREC, DURGAP UR	Mar-25
6	12000122020	Survi Mukherjee	Smart Traffic Sentinel	BCREC, Durgapur	November , 2024
6	12000122021	RIMA GORAI	E- commerce Website	BCREC, DURGAP UR	Mar-25
7	12000122069	Nandini Pandey	i-PolluSense: An intelligent air and noise pollution sensing and alert companion	NIT Durgapur	May-25
7	12000122072	Ankita Ganguli	A/B Testing Framwork Using AIML	BCREC, DURGAP UR	May-25

8	12000122003	SAYAN KUMAR DHAR	Hosting a Website with Static HTML Content in a Non-Orthodox Method	BCREC, Durgapur	April, 2025
9	12000122005	SHREYAK MUKHERJEE	Hosting a Website with Static HTML Content in a Non-Orthodox Method	BCREC, Durgapur	April, 2025
10	12000122007	SOUNAK MOITRA	Cloud-native, real-time backend deployed on Azure Kubernetes Service (AKS)	BCREC, Durgapur	April, 2025
11	12000122008	SUMAN CHOWDHURY	Hosting a Website with Static HTML Content in a Non-Orthodox Method	BCREC, Durgapur	April, 2025
12	12000122072	Ankita Ganguli	Credit Scoring Model using Random Forest	BCREC, DURGAPUR	Apr-25
13	12000122074	Shruti Gupta	Automated Invoice Email Reminder	Personal	Apr-25
14	120001243004	ATISH CHAKRABORTY	Mental Stress Detection System	Hacktopus, 2025	Apr-25
15	12000122020	Survi Mukherjee	Shadow Trace	Hackathon	March, 2026
16	12000122027	MANIKA SARKAR	Credit Card Fraud Detection Using Machine Learning In Python	BCREC, Durgapur	March, 2025
17	12000122055	SUMANA CHOWDHURY	Stopwatch Web App	BCREC, Durgapur	March, 2025
18	12000122059	AANYA SINHA	Tour Management System	BCREC, DURGAPUR	March, 2025
19	12000123019	Archak Khandayit	GupShup: Real Time Chat App	Self	Mar-25
20	12000123070	Rohit Kumar	Online Quiz Application	BCREC, Durgapur	Mar-25

21	12000122003	SAYAN KUMAR DHAR	AI tool for Text-to-Image generation using Stable Diffusion Model	BCREC, Durgapur	February, 2025
22	12000122005	SHREYAK MUKHERJEE	AI tool for Text-to-Image generation using Stable Diffusion Model	BCREC, Durgapur	February, 2025
23	12000122007	SOUNAK MOITRA	AI tool for Text-to-Image generation using Stable Diffusion Model	BCREC, Durgapur	February, 2025
24	12000122008	SUMAN CHOWDHURY	AI tool for Text-to-Image generation using Stable Diffusion Model	BCREC, Durgapur	February, 2025
25	12000122025	Upasana Ghosh	Event Chain-NFT based ticketing system	Self	Feb, 2025
26	12000122054	Prerana Basak	Lottery Smart System using solidity	BCREC, Durgapur	Feb,2025
27	12000122060	Titiksha Dalal	Event Chain-NFT based ticketing system	Self	Feb, 2025
28	12000122072	Ankita Ganguli	Wind Power Generation Forecasting	EDUNET	Feb-25
29	12000123075	Sagnik Bera	Attendance Management System	BCREC, Durgapur	Feb-25
30	12000123077	SANGRAMJI T BAKSI	Online Quiz System	BCREC, Durgapur	Feb-25
31	12000122023	Aritra Kesh	DATA ANALYSTICS ON ADVERTISING SALES AND BUDGET	BCREC, DURGAPUR	January, 2025
32	12000122028	SHIVWANGI BANERJEE	Advertisemen t Budget and Sales Data Analysis	BCREC, Durgapur	Jan-25
33	12000122036	Pankaj Kumar Rawani	Smart Route Planner – Pathfinding Visualization System	BCREC, DURGAPUR	10-01-2025

34	12000122042	Soumyajit Khan	A Composite Entropy Model in a Multiobjective Framework for Gene Regulatory Networks	NIT DURGAPUR	JANUARY-MARCH 2025
35	12000122055	SUMANA CHOWDHURY	Spam SMS Detection	Self	Jan,2025
36	12000122069	Nandini Pandey	Disaster Management System leveraging Blockchain Technology	BCREC	Jan-25
37	12000122084	ANUSHA CHANDA	Weather Forecasting System	Codsoft	January 25
38	12000122110	Debleena Maity	SMS spam detection system	Edunet Foundation	Jan-25
39	12000123038	Gaurav Kumar	Java-Client Server Applicaton	BCREC, DURGAPUR	Jan-25
40	12000123123	VICKY RAJ	PERSONAL FINANCE TRACKER	BCREC, DURGAPUR	Jan-25
41	12000122008	SUMAN CHOWDHURY	Real-Time cats vs dog image classification using CNNs and Streamlit	Edunet Foundation	December, 2024
42	12000122025	Upasana Ghosh	Logistic Route Optimization	BCREC, Durgapur	Dec, 2024
43	12000122025	Upasana Ghosh	Patient posture and location monitoring system	Self	Dec, 2024
44	12000122034	ARPAN SETH	Optimizing Logistics for Smart Cities.	BCREC, DURGAPUR	December, 2024
45	12000122049	Soham Dutta	Body Posture Detection System	BCREC, DURGAPUR	December, 2024
46	12000122058	Rahul Karmakar	Body Posture Detection System.	BCREC, DURGAPUR	December, 2024
47	12000122060	Titiksha Dalal	Conn- A Realtime Chat Application	BCREC, Durgapur	Dec, 2024
48	12000122060	Titiksha Dalal	Patient posture and location monitoring system	Self	Dec, 2024
49	12000122074	Shruti Gupta	BCREC ChatBot	Edunet Foundation	Dec-24

50	12000122085	Rajib Pramanik	Chatbot	Edunet Foundation	Dec-24
51	12000122110	Debleena Maity	Digital Clock	BCREC, Durgapur	Dec-24
52	12000122021	RIMA GORAI	Movie Recommender System	Personal	Nov-24
53	12000122054	Prerana Basak	Credit Card Fraud Detection	Self	Nov,2024
54	12000122055	SUMANA CHOWDHURY	Face recognition using opencv and ML	BCREC, Durgapur	Nov,2024
55	12000122074	Shruti Gupta	Breast Cancer Detection using Machine Learning	BCREC, DURGAPUR	Nov-24
56	12000122084	ANUSHA CHANDA	Leaf Disease Prediction App	BCREC	November 24
57	12000122085	Rajib Pramanik	Leaf Disease Prediction App	BCREC, DURGAPUR	Nov-24
58	12000122088	Rohit Yadav	clean city website - for garbage collection and disposing	BCREC , DURGAPUR	Nov , 2024
59	120001243011	Aranyak Samui	Screenshot Organizer using Active Window Context (Windows)	Self	Nov-24
60	12000122006	GOKUL PAL	Movie Recommender System	Personal	Oct-24
61	12000122024	Dipanwita Poddar	Credit Card Fraud Detection Using Machine Learning	BCREC, DURGAPUR	October, 2024
62	12000122025	Upasana Ghosh	Multilingual Text to Speech Converter	BCREC, Durgapur	Oct, 2024
63	12000122040	Sourik Bose	Olympic data analysis 1896 to 2012	BCREC, DURGAPUR	September 14, 2024 – October 18, 2024
64	12000122054	Prerana Basak	Body Posture Detection System.	Self	Oct,2024

65	12000122060	Titiksha Dalal	E-Commerce Audio Review Sentiment Analysis System	BCREC, Durgapur	Oct, 2024
66	12000122107	Trishna Bhattacharjee	E-Commerce website	Personal	October, 2024
67	12000122110	Debleena Maity	Spotify Clone	BCREC, Durgapur	Oct-24
68	12000122001	Aneek Maity	Pixode: A responsive web app with Google OAuth login and dynamic content management using Sanity CMS.	BCREC, DURGAPUR	Sep-24
69	12000122021	RIMA GORAI	E-healthcare Management System	Personal	Sep-24
70	12000122023	Aritra Kesh	LIVE TRAIN STATUS WEBSITE	BCREC, DURGAPUR	September, 2024
71	12000122024	Dipanjita Poddar	Real Estate Website Using Web Development	BCREC, DURGAPUR	September, 2024
72	12000122027	MANIKA SARKAR	Diabetes Prediction Using Machine Learning And Web Application Development	BCREC, Durgapur	September, 2024
73	12000122034	ARPAN SETH	Multilingual PDF Text-to-Speech Converter.	BCREC, DURGAPUR	September, 2024
74	12000122043	SAIKAT KARMAKAR	WEATHER WEBAPP	BCREC, DURGAPUR	Sep-24
75	12000122044	RAMKRISHNA MODAK	ONLINE MUSIC PLAYER	BCREC, DURGAPUR	September, 2024
76	12000122048	Tulika Dutta	YouTube Web Scraper	BCREC, DURGAPUR	September, 2024
77	12000122049	Soham Dutta	YouTube Web Scraper	BCREC, DURGAPUR	September, 2024
78	12000122058	Rahul Karmakar	YouTube Data Scraping using YouTube Data API.	BCREC, DURGAPUR	September, 2024

79	12000122059	AANYA SINHA	Hospital Management System	BCREC, DURGAPUR	September, 2024
80	12000122006	GOKUL PAL	Online Vehicle Booking System	Personal	Aug-24
81	12000122069	Nandini Pandey	Collaborative Code Platform	BCREC	Aug-24
82	12000122006	GOKUL PAL	Diabetes Prediction System	Personal	Jul-24
83	12000122040	Sourik Bose	Web based online music player	BCREC, DURGAPUR	June 26, 2024 – July 28, 2024
84	12000122082	Kumar Hrishav	Employee Management System	BCREC, Durgapur	Jul-24

Table 2.4.4: List of student on Mini/Micro Projects in Academic Year 2023-24

Sl. No.	Universiry Roll Number	Name	Title of Project (MINI/MICRO Project)	Organizing Institute	Month and Year of Submission & Certificate Issuing Month
1	12000122020	Survi Mukherjee	SANKET	BCREC, Durgapur	May,2024
2	12000122030	NITISH KUMAR MAHATO	PORTFOLIO WEBSITE	BCREC,DURGA PUR	June,2024
3	12000122072	Ankita Ganguli	Breast Cancer Detection using Machine Learning	BCREC, DURGAPUR	Jun-24
4	12000122083	Suhani Singha	Plant Leaf Disease Prediction App	BCREC	June,2024
5	12000123133	Srabani Das	RESTURANT RESERVATION SYSTEM	BCREC,DURGA PUR	Jun-24
6	12000122003	SAYAN KUMAR DHAR	Real-Time Chat Application using MERN stack	BCREC, Durgapur	May, 2024

7	12000122005	SHREYAK MUKHERJEE	Real-Time Chat Application using MERN stack	BCREC, Durgapur	May, 2024
8	12000122007	SOUNAK MOITRA	Real-Time Chat Application using MERN stack	BCREC, Durgapur	May, 2024
9	12000122008	SUMAN CHOWDHURY	Real-Time Chat Application using MERN stack	BCREC, Durgapur	May, 2024
10	12000122021	RIMA GORAI	Customer Churn Prediction	Personal	May-24
11	12000123073	Ruchi Kumari	Amazon Cloud	BCREC,Durgapur	Mar-24
12	12000122033	toufik umar sekh	Multilingual Text to Speech Converter	bcrec, durgapur	10-01-2024
13	12000122033	toufik umar sekh	Logistic Route Optimization	bcrec, durgapur	12-01-2024

2.5 Case Studies and Real-Life Examples (10)

2.5. Case Studies and Real-Life Examples (10)

Use of case studies and real-life examples in teaching and their mapping with POs and PSOs.

PO & PSO Addressed:

PO1: Engineering Knowledge:

The case studies require the application of fundamental concepts of computer science, including data structures, object-oriented programming, databases, operating systems, and solving practical problems.

PO2: Problem Analysis:

Students analyze complex real-world problems such as patient data management, railway reservation scheduling, distributed banking transactions, and memory allocation.

PO3: Design and Development of Solutions:

The studies involve designing and developing software systems that meet functional and non-functional requirements while ensuring reliability, scalability, and efficiency.

PO4: Investigation of Complex Problems:

Performance evaluation, testing, debugging, and system analysis are carried out to investigate system behavior and improve overall effectiveness.

PO6: Engineer and Society:

Applications in healthcare, banking, and transportation demonstrate how computing technologies directly influence society and improve service quality and operational efficiency.

PO8: Ethics:

The handling of sensitive information such as patient records and banking transactions emphasizes the importance of privacy, security, confidentiality, and professional conduct.

PO9: Individual and Team Work:

Development and implementation of large-scale software systems require effective collaboration among team members and independent problem-solving abilities.

PO10: Communication:

Preparation of technical reports, presentations, project documentation, and discussions improves professional communication skills.

PO11: Project Management and Finance:

Planning, scheduling, resource allocation, risk assessment, and cost considerations involved in software projects help students understand project management principles.

PSO2 – Software Development and Deployment:

The case studies strengthen the ability to design, develop, test, and deploy reliable software systems using modern programming languages, tools, frameworks, and infrastructure.

PSO3 – Emerging Technologies and Innovation:

The studies encourage the application of advanced computing technologies and innovative approaches to develop sustainable solutions for industrial and societal challenges.

Sample courses case studies and real-life examples

Course -Data Structures

Course -Object Oriented Programming

Course -Data Base Management Systems

Course -Operating Systems

Course -Machine Learning

Course -Cyber Security and Ethics

Case Studies and Real-Life Examples-Data Structures

Case Study 1: Real-Time Application of Binary Search: Student Record Search System

Title : Fast Student Record Search Using Binary Search Algorithm

A university maintains records of 50,000 students. When faculty members need to find a student's details using a Student ID, searching sequentially through all records is inefficient. To improve performance, the student records are stored in sorted order based on Student ID, and the Binary Search Algorithm is used.

Case Study 2: Hospital Patient Record Management Using Binary Search Tree (BST)

A multi-specialty hospital serves thousands of patients every day across various departments such as Cardiology, Neurology, Orthopedics, Pediatrics, and Emergency they register. Doctors, nurses, and administrative staff need quick access to patient records for diagnosis, treatment, billing, and follow-up care.

As the number of patients increased, searching patient records manually or through unsorted databases became time-consuming and inefficient.

Problem Statement

The hospital faced several challenges:

1. Delays in retrieving patient information during emergencies.
2. Increased waiting time for patients.
3. Difficulty in updating patient records efficiently.
4. Slow search performance when the database size grew.
5. Risk of duplicate patient records.

For example, if a doctor needed the record of Patient ID 1050, the system might have to scan thousands of records sequentially, causing delays in treatment.

Data Structure Used: Binary Search Tree (BST)

The hospital implemented a Binary Search Tree (BST) to organize patient records.

BST Properties

- Each node represents a patient record.
- The root node contains the first patient record.
- Patient IDs smaller than the current node are stored in the left subtree.
- Patient IDs larger than the current node are stored in the right subtree.

Example

Patient IDs inserted:

500, 300, 700, 200, 400, 600, 800

```
      500
     /  \
    300   700
   / \  / \
  200 400 600 800
```

Each node stores information of

Patient ID

Patient Name

Age

Medical History

Department

Treatment Details

Case Study 3: Employee Management System Using Data Structures

Title: Managing Employee Records in a Large Organization

A multinational company employs more than 10,000 employees across various departments such as Human Resources, Finance, Marketing, Research & Development. It needs an efficient system to store, search, update, and manage employee records.

Problem

The HR department faced several challenges:

1. Searching employee details took a long time.
2. Updating employee information was inefficient.
3. Managing promotions and department transfers was difficult.
4. Generating employee reports was time-consuming.
5. Duplicate records occasionally occurred.

Data Structure Used

Binary Search Tree (BST)

Each employee is assigned a unique Employee ID, which serves as the key in the BST.

Employee Record Structure

Employee ID

Employee Name

Department

Designation

Salary

Contact Number

Email

Suppose the following employee IDs are inserted:

1005, 1002, 1008, 1001, 1003, 1007, 1010

The BST will look like:

```

      1005
     /  \
    1002  1008
   / \  / \
  1001 1003 1007 1010

```

Case Study 4: Google Maps Using Graphs

Problem

Users need the shortest route between two locations.

Data Structure

Graph

Implementation

1. Cities are vertices.
2. Roads are edges.
3. Distance is edge weight.

A ----10km---- B

```

\      /
 \5km  8km
 \    /
  C

```

Case Study 5: WhatsApp Contact Search Using Trie

Problem

Finding contacts quickly from thousands of entries.

Root

```

|— A
| |— Amit
| |— Anjali
|— R
  |— Rahul

```

Result

As the user types "Ra", WhatsApp instantly suggests "Rahul".

Case Studies and Real-Life Examples- Object Oriented Programming

Case Study 1: Modern Challenges in Java and Advanced Java Applications (2026)

Title: Securing and Scaling a Java-Based Online Banking System

Background

A leading bank developed an online banking platform using Java and Advanced Java technologies such as Servlets, JSP, Spring Boot, Hibernate, REST APIs, and Microservices, including fund transfers, bill payments, and account management.

Challenges Faced**1. Cyber security Threats**

The banking application faced increasing cyber attacks, including SQL injection, Cross-Site Scripting (XSS), and API attacks. Attackers attempted to access customer data and perform unauthorized transactions.

2. Performance and Scalability

As the number of users grew, the system experienced slow response times and server overload during peak banking hours.

3. Database Management

Millions of transactions generated large volumes of data, creating challenges in database performance, transaction consistency, and data recovery.

4. Micro services Complexity

The bank migrated from a monolithic Java application to microservices using Spring Boot. Managing communication, service discovery, and fault tolerance became complex.

5. Cloud Integration

Deploying Java applications on cloud platforms required efficient containerization, monitoring, and resource management.

Technologies Used

1. Java 21
2. Advanced Java (Servlets, JSP)
3. Spring Boot
4. Hibernate/JPA
5. MySQL/PostgreSQL
6. Docker and Kubernetes
7. JWT Authentication
8. RESTful Web Services
9. Apache Kafka

Case Study 2: Online Railway Reservation System Using Object-Oriented Programming (OOP)

Title: Design and Implementation of an Online Railway Reservation System Using OOP Concepts

Indian Railways serves millions of passengers daily. Managing reservations manually is time-consuming and prone to errors. An Online Railway Reservation System was developed using Object-Oriented Programming principles.

Problem Statement

Passengers faced several challenges:

1. Long queues at reservation counters.
2. Difficulty checking seat availability.
3. Manual record maintenance.
4. Delays in ticket cancellation and refunds.
5. Human errors in seat allocation.

Case Study 3: Online Food Delivery System Using Object-Oriented Programming (Java)

Title: Online Food Delivery System Using Java and Object-Oriented Programming

Food delivery applications such as Swiggy and Zomato allow customers to order food online from restaurants. The system manages customers, restaurants, orders, payments, and reviews using Object-Oriented Programming (OOP) concepts.

Problem Statement

Traditional food ordering methods faced several issues:

1. Long waiting times for phone orders.
2. Manual order management.

3. Incorrect order details.
4. Difficulty tracking deliveries.
5. Payment processing challenges.

Case Study 4: Online Flight Reservation and Cancellation System Using Java

Title: Development of an Online Flight Reservation and Cancellation System Using Object-Oriented Programming in Java

The Online Flight Reservation and Cancellation System is a Java-based application that enables passengers to search flights, reserve seats, cancel bookings, and manage bookings using Object-Oriented Programming (OOP) concepts to automate airline reservation processes and improve customer convenience. Book flight tickets online.

Problem Statement

1. Maintain passenger records.
2. Cancel booked tickets.
3. Process refunds after cancellation.
4. Generate reservation details.

Case Studies and Real-Life Examples- DataBase Management Systems

DBMS Case study

Case Study 1: Distributed Database Management System (DDBMS) in Banking

Title: Implementation of a Distributed Database Management System in a National Bank

A national bank has branches in multiple cities such as Delhi, Mumbai, Chennai, and Kolkata. Each branch maintains customer accounts, transactions, loans, and employee records. Managing such huge data manually is impossible. Therefore, Amazon implemented a distributed database system to retrieve, update, and manage data efficiently.

Problem

The bank faced the following challenges:

1. Slow transaction processing during peak hours.
2. High network traffic between branches.
3. Risk of complete service disruption if the central server failed.
4. Difficulty in handling large volumes of customer data.

Case Study 2: E-Commerce Database Management System

Title :Database Management System in Amazon Online Shopping Platform

Amazon handles millions of customers, products, orders, payments, and deliveries every day. Managing such huge data manually is impossible. Therefore, Amazon implemented a database management system to retrieve, update, and manage data efficiently.

Problem : Before implementing an efficient DBMS, the company faced:

1. Difficulty managing millions of product records.
2. Slow order processing.
3. Data redundancy and inconsistency.
4. Challenges in tracking inventory across warehouses.

Delays in generating sales reports.

Case Study 3: Employee Details Management System

Title: Employee Details Management System Using Database Management System (DBMS)

A multinational company with thousands of employees needs an efficient way to manage employee records, salaries, departments, attendance, and performance data. Managing such huge data manually is impossible. Therefore, Amazon implemented a database management system to retrieve, update, and manage data efficiently.

Problem Statement

The company faced the following challenges:

1. Employee records scattered across departments.
2. Difficulty tracking attendance and leaves.
3. Errors in salary processing.

4. Slow retrieval of employee information.
5. Redundant and inconsistent data.

Case Study 4: Student Details Management System

Title

Student Information Management System Using DBMS

A university manages thousands of students across different departments. Maintaining student records manually is difficult and time-consuming. A DBMS helps stor

Problem Statement

The institution faced the following issues:

1. Difficulty maintaining student records.
2. Duplicate student information.
3. Slow generation of results and reports.
4. Errors in attendance and fee management.

Challenges in tracking academic performance.

Case Studies and Real-Life Examples- Operating Systems

Case Study 1: Study on Memory Management in Operating Systems

Title: Memory Management Failure in a Banking Server System

In 2026, a large banking organization experienced severe performance degradation in its online transaction processing system. Customers reported slow response tim
Investigation revealed that the problem was related to inefficient memory management in the operating system.

Problem Description

The banking application handled thousands of transactions simultaneously. Due to improper memory allocation and deallocation, the system suffered from:

1. Memory leaks
2. High memory fragmentation
3. Excessive swapping between RAM and disk
4. Reduced system performance

As a result, available physical memory decreased continuously, causing the server to become unresponsive.

Analysis

System administrators monitored memory usage using OS tools. They discovered that several application processes were not releasing allocated memory after compl
increased page faults.

The operating system spent significant time performing virtual memory operations, reducing CPU efficiency and slowing transaction processing.

Case Study 2: Hospital Ransom ware Attack

Title: In January 2026, a large hospital experienced a ransomware attack that disrupted patient care services. The hospital relied on multiple operating systems to mai
and administrative systems.

Security Issue

Employees received a phishing email appearing to be from a trusted medical supplier. The email contained a malicious attachment. When an employee opened the fi
system.

Impact

1. Patient records became inaccessible.
2. Appointment scheduling systems stopped functioning.
3. Critical medical devices connected to the network were affected.
4. Hospital operations were delayed, impacting patient care.

Operating System Vulnerabilities

1. Outdated operating system patches.
2. Weak access control policies

3. Lack of endpoint security monitoring.
4. Insufficient user awareness training.

Solutions Implemented

1. Regular OS security updates and patches management.
2. Multi-factor authentication (MFA) for all users.
3. Role-based access control (RBAC).
4. Endpoint detection and response (EDR) systems.
5. Employee cyber security awareness programs.

Case Study 3: Banking System Data Breach

Title: A major bank experienced a cyber attack targeting customer financial information. Attackers exploited vulnerabilities in server operating systems hosting online banking services.

Security Issue: Hackers used stolen credentials and privilege escalation techniques to gain unauthorized access to banking servers.

Impact

1. Exposure of customer account information.
2. Unauthorized financial transactions.
3. Temporary shutdown of online banking services.
4. Financial and reputational losses.

Operating System Vulnerabilities

1. Weak password policies.
2. Inadequate privilege management.
3. Delayed security patch deployment.
4. Poor system log monitoring.

Case Study 4: New Technology File System (NTFS)

Title: Hidden Confidential Data Using NTFS Alternate Data Streams (ADS)

In 2026, a bank's cyber security team noticed unusual disk activity on a Windows Server system. Despite extensive file scans, no suspicious files were found. A forensic analyst discovered hidden data using NTFS Alternate Data Streams (ADS), a feature of the Windows file system.

Problem

The Windows NTFS (New Technology File System) allows a file to contain multiple data streams. Attackers can hide information inside an Alternate Data Stream (ADS). For example:

- Visible file: report.txt
- Hidden stream: report.txt:secretdata.txt

The hidden data does not appear in normal Windows Explorer views.

Attack Scenario

A malicious insider copied confidential customer records and stored them in an ADS attached to an innocent-looking text file.

The employee believed that:

- Antivirus software might overlook the hidden stream.
- Regular users would not detect the hidden data.
- The file would appear normal during routine inspections.

Investigation

The security team used forensic tools and PowerShell commands to examine NTFS metadata.

They discovered:

1. Suspicious Alternate Data Streams.
2. Hidden customer information stored within ADS.
3. Unauthorized access to sensitive banking records.

Operating System Security Issues

1. Abuse of NTFS features.

2. Lack of file-system monitoring.
3. Insider threats.
4. Inadequate auditing of hidden streams.

Solutions Implemented

1. Regular ADS scanning and monitoring.
2. Enhanced file auditing policies.
3. Principle of Least Privilege (PoLP).
4. Data Loss Prevention (DLP) solutions.
5. Employee security awareness training.

Results

1. Hidden data was detected and removed.
2. Sensitive customer information was secured.
3. Monitoring tools were updated to identify ADS-based attacks.
4. Insider threat detection capabilities improved.

Case Study 5: Software Installation Vulnerability in Operating Systems

Title: Malware Infection Through Unauthorized Software Installation

Background

In 2026, a private bank experienced a cybersecurity incident after an employee installed a free PDF conversion software on a Windows workstation. The software exploited operating system vulnerabilities.

Problem

The employee downloaded the software from an untrusted website instead of the official vendor source. During installation, the software requested administrator privileges, accessing critical operating system resources.

Operating System Vulnerabilities Exploited

- Installation of software from untrusted sources.
- Excessive user privileges (administrator access).
- Lack of application whitelisting.
- Outdated operating system security patches.
- Insufficient malware scanning during installation.

Impact

- Unauthorized access to sensitive banking data.
- Installation of spyware and keyloggers.
- System performance degradation.
- Risk of customer information leakage.
- Temporary disruption of banking services.

Investigation

The IT security team analyzed system logs and discovered:

1. The software installer contained malicious code.
2. Registry entries were modified to ensure malware persistence.
3. New background processes were created without authorization.
4. Sensitive credentials were being transmitted to an external server.

Solutions Implemented

1. Restricted software installation to authorized personnel only.
2. Implemented application whitelisting.
3. Enabled real-time antivirus and endpoint protection.
4. Applied regular operating system security updates.
5. Conducted employee cybersecurity awareness training.
6. Enforced the Principle of Least Privilege (PoLP).

Case Studies and Real-Life Examples- Machine Learning

Case Study 1: Customer Purchase Analysis Using Clustering Algorithms

Title: Customer Segmentation in a Supermarket Based on Income and Buying Behavior

Background

A large supermarket wants to understand its customers purchasing patterns. The management observes that customers with different income levels buy different type strategies and increase sales, the supermarket decides to group customers based on their income and spending habits.

Problem Statement

The supermarket has data for thousands of customers, including:

1. Customer ID
2. Annual Income
3. Monthly Spending
4. Number of Purchases
5. Product Categories Purchased

The supermarket wants to identify groups of customers with similar characteristics and provide targeted promotions.

Case Study 2: Employee Attrition Prediction Using Random Forest

Background

A large IT company observed that many employees were leaving the organization. The HR department wanted to predict which employees were likely to resign so th

Problem Statement

Employee turnover leads to:

1. Increased recruitment costs.
2. Loss of experienced staff.
3. Reduced productivity.

The company wanted to identify employees at high risk of leaving.

Case Study 3: House Price Prediction Using Linear Regression

A real estate company wants to predict house prices based on the size of the house.

Problem Customers want an estimated property price before purchasing.

Case Studies and Real-Life Examples- Cyber Security and Ethics

Case Study 1: AIIMS New Delhi Ransom ware Attack (2022)

Background

In November 2022, the computer systems of All India Institute of Medical Sciences were targeted by a ransom ware attack. The attack disrupted online hospital servi medical record access.

Impact

1. Hospital services were severely affected.
2. Digital patient records became inaccessible.
3. Thousands of patients experienced delays in treatment.
4. Sensitive healthcare data was at risk.

Cyber security Lessons

1. Importance of regular data backups.
2. Need for network segmentation.
3. Deployment of ransom ware detection systems.

4. Continuous security monitoring and incident response planning.

Case Study 2: Aadhaar Data Security Concerns

Background

The Unique Identification Authority of India manages the Aadhaar database containing biometric and demographic information of millions of Indian citizens. Various access and data exposure.

Impact

1. Potential privacy risks to citizens.
2. Increased concerns regarding identity theft.
3. Need for stronger access control mechanisms.

Cyber security Lessons

1. Multi-factor authentication for administrators.
2. Data encryption at rest and in transit.
3. Regular security audits and compliance checks.
4. Strong identity and access management policies.

Case Study 3: WannaCry Attack on Public Services (2017)

Background

The global ransomware attack known as Wanna Cry ransomware attack affected government agencies, healthcare systems, and public organizations across multiple

Impact

1. Critical public services became unavailable.
2. Government systems were encrypted.
3. Significant financial and operational losses occurred.
4. Citizens experienced interruptions in essential services.

Cyber security Lessons

1. Timely patch management.
2. Vulnerability assessment and penetration testing.
3. Endpoint protection and malware detection.
4. Employee cyber security awareness training.

2.6 SWAYAM/NPTEL/MOOC/Self Learning (10)

2.6. SWAYAM/NPTEL/MOOC/Self Learning (10)

A. Number of students obtained MOOCs certification through platforms like SWAYAM/NPTEL, etc and their mapping with POs and PSOs (07).

SWAYAM

SWAYAM provides students with access to high-quality courses offered by premier institutions such as Indian Institutes of Technology, Indian Institute of Science, and others. Students can learn at their own pace, gain exposure to advanced topics beyond the curriculum, earn certifications, and enhance their employability. SWAYAM promotes self-learning, critical thinking, and skill development.

NPTEL

NPTEL courses, developed by the IITs and IISc, provide students with high-quality technical education aligned with industry and academic standards. Through video lectures, examinations, and practical assignments, students gain deeper conceptual understanding and practical knowledge in engineering, technology, management, and emerging fields. NPTEL certifications strengthen their resumes, prepare for competitive examinations, and improve placement opportunities.

Udemy

Udemy offers industry-focused courses in programming, data science, cloud computing, cyber security, AI, web development, and professional skills. Students gain practical knowledge through hands-on exercises, and real-world case studies. The platform helps students acquire job-ready skills demanded by industries and enhances their employability through practical projects.

edX / OpenEDG Python

edX courses from leading global universities and OpenEDG Python certifications provide students with internationally recognized credentials and advanced technical skills. These certifications increase students' competitiveness in the job market and prepare them for roles in software development, data analysis, and automation.

Coursera / Simpli learn

Coursera and Simpli learn provide professional certifications in areas such as Artificial Intelligence, Machine Learning, Data Science, Cloud Computing, Cybersecurity, and Project Management. Students gain industry-relevant skills through guided projects, capstone activities, and real-world applications. Many courses are designed in collaboration with global industry leaders to meet current industry needs and improve employability.

Add-on Classes/Courses

Add-on courses supplement the regular curriculum by providing specialized training in emerging technologies, soft skills, aptitude, entrepreneurship, and domain-specific knowledge. These courses bridge the gap between academic knowledge and industry requirements, thereby enhancing technical competence, communication skills, and career readiness.

Spoken Tutorial / AWS / Infosys Springboard / Microsoft Learn / Google Skill Boost / Microsoft Azure

These platforms provide hands-on training, industry certifications, and practical experience in programming, cloud computing, artificial intelligence, data analytics, and cybersecurity. Students gain exposure to real-world tools and industry-standard practices through laboratory exercises, projects, and certification programs. These experiences validate students' technical skills and readiness for professional roles.

PO & PSO Addressed:

PO1 – Engineering Knowledge

PO2 – Problem Analysis

PO3 – Design/Development of Solutions

PO5 – Modern Tool Usage

PO9 – Individual and Team Work through collaborative projects.

PO10 – Communication (through discussions, assignments, and presentations)

PSO1:

Students apply computer science and security principles to analyze threats, identify vulnerabilities, and develop effective solutions for complex real-world cyber security challenges.

PSO2:

The course provides hands-on experience with modern security tools, programming techniques, frameworks, and secure software development practices.

PSO3:

Students gain expertise in emerging cyber security technologies and develop innovative solutions to protect digital infrastructure and meet societal and industrial security requirements.

Table 2.6.1: List of student completed MOOCs in Academic Year 2025-26

Sl. No.	Universiry Roll Number	Name	MOOCS Course Name	MOOCS Platform Name	Durati on in Weeks/ Hours	Numb er of Credit	Month and Year of Completi on	Issuing Date of Certific ate
1	12000122027	MANIKA SARKAR	Data Structures and Algorithms in Python: DSA Course	UDEMY	32 Hours	4	May, 2026	19-05-2026
2	12000122027	MANIKA SARKAR	Business Communicatio n and Ethics in Organizations	UDEMY	16 Hours	2	May, 2026	20-05-2026
3	12000122027	MANIKA SARKAR	Complete Python Course 2026: Beginner to Advanced	UDEMY	24 Hours	3	May, 2026	20-05-2026
4	12000123109	SUMAN GORAI	CSS3	INFOSYS	10.45 Hours	1	May, 2026	May, 2026
5	12000123109	SUMAN GORAI	JavaScript	INFOSYS	15.34 Hours	1	May, 2026	May, 2026
6	12000123109	SUMAN GORAI	Twitter Bootstrap	INFOSYS	23 Hours	2	May, 2026	May, 2026
7	12000123109	SUMAN GORAI	Angular	INFOSYS	36.43 Hours	3	May, 2026	May, 2026
8	120001244074	KOYEL RAY	PYTHON FOR COMPLETE BEGINNERS	CURSA	65 Hours 34 Minute s	4	May, 2026	May, 2026
9	120001244074	KOYEL RAY	PYTHON DATA STRUCTURE S AND ALGORITHM S, LEARN EFFICIENT PROGRAMM ING	CURSA	27 Hours 57 Minute s	2	May, 2026	May, 2026
10	120001244104	Prem Kumar saw	Python For Beginners	SimpliLea rn	11 Hours		May-26	23-05-2026
11	120001244191	RAKSHA KUMARI	The Complete Investing And Stock Trading Course Guide	UDEMY	11 Hours	1	May, 2026	12-05-2026
12	120001244191	RAKSHA KUMARI	The Complete Flutter Guide: Build Android, iOS and Web apps	UDEMY	25 Hours	3	May, 2026	12-05-2026
13	120001244191	RAKSHA KUMARI	Generative AI for Digital Marketing: From Basics to Pro	UDEMY	77 Hours	4	May, 2026	12-05-2026
14	120001244191	RAKSHA KUMARI	Bootstrap 5 with 3 projects in Hindi	UDEMY	8.5 Hours	1	May, 2026	12-05-2026

15	120001244071	KINGSHUK GOSWAMI	Advanced C Programming	Microchip Technology Inc.	3.5 Hours		Apr-26	Apr-26
16	120001244187	VASKAR DUTTA	AWS Fundamentals: CLOUD for Beginners	UDEMY	24.5 hours		April, 2026	03-04-2026
17	120001254134	SOMDEEP GORAI	Unlocking AI for Everyone	SKILL INDIA	0.75 Hours	0.025	April, 2026	01-04-2026
18	12000122027	MANIKA SARKAR	7 Days of Hands-On AI Development Bootcamp and Certification	UDEMY	8 Hours	1	March, 2026	18-03-2026
19	12000122040	Sourik Bose	The Complete Full-Stack Web Development Bootcamp	Udemy	62 Hrs.	4	23-03-2026	
20	12000122089	Subhajit Halder	Web Development by Hitesh Choudhary	Udemy	100 hours		Mar-26	11-03-2026
21	12000123001	AAKANCHHA SINGH	React-JS - A Deep Dive	UDEMY	20 hours	1	Mar-26	11-03-2026
22	12000123002	ABHIK DEY	Next.js Crash Course: Build a Full-Stack App in a Weekend	UDEMY	22.5 Hours	1	Mar-26	11-03-2026
23	12000123109	SUMAN GORAI	HTML5 - The Language	INFOSYS	13.17 Hours	1	March, 2026	March, 2026
24	12000123117	SWEETY PAUL	React JS - A Deep Dive	Udemy	20 Hours		March, 2026	March 11, 2026
25	12000123110	Supreme Dey	Generative AI for All	PHYSICS WALLAH	10 Hours	1	February 2026	26.02.2026
26	12000123024	ARNAB MAITY	AWS SimuLearn: Cloud Computing Essentials	AWS		1	Jan-26	28-01-2026
27	120001244071	KINGSHUK GOSWAMI	PCAP – Certified Associate Python Programmer	OpenEDG Python Institute	40 Hours		Jan-26	Jan-26
28	120001244073	Koyel Chandra	Hands-on approach to AI for real world applications	tesion	12 weeks		January, 2026	05-03-2026
29	12000123110	Supreme Dey	React JS - A Deep Dive	UDEMY	20 Hours	2	December 1 2025	20.12.2025
30	120001244103	PRATYUSH GUPTA	The Complete HTML5 & CSS3 Course	UDemy	37.5 Hours		Dec-25	February 2025
31	12000122055	SUMANA CHOWDHURY	Machine Learning	Infosys Springboard	8 weeks	2	October, 2025	01-11-2025

32	120001244053	DEBJYOTI DAN	GOOGLE CLOUD STUDY JAMS 2025	Google Cloud Skill Boost	8 weeks or more		October, 2025	25-12-2025
33	120001244071	KINGSHUK GOSWAMI	PCEP – Certified Entry-Level Python Programmer	OpenEDG Python Institute	30 Hours		Oct-25	Oct-25
34	120001244103	PRATYUSH GUPTA	Google Cloud Study Jams 2025	GDG On Campus BCREC	4 weeks		Oct-25	Nov-25
35	120001244166	SRIJA RAY	Basic Statistics using R (BlueSky Statistics)	SWAYAM	8 weeks	2	October, 2025	20-11-2025
36	12000123120	TANUSHREE MONDAL	React JS - A Deep Dive	Udemy	20 Hours		September, 2025	September 25, 2025
37	120001244166	SRIJA RAY	Data Science for Engineers	NPTEL	8 weeks	2	September, 2025	29-09-2025
38	12000122005	SHREYAK MUKHERJEE	Convolutional Neural Networks	COURSE RA	32 Hours	4	August 27, 2025	August 27, 2025
39	12000122042	Soumyajit Khan	Introduction to Databases	COURSE RA	24 HOURS	3	Aug-25	07-07-2025
40	12000123002	ABHIK DEY	React JS - A Deep Dive	UDEMY	20 Hours	1	Aug-25	15-08-2025
41	120001243011	Aranyak Samui	Complete C# Unity 3D Game Development	UDEMY	27 hours	1	Aug-25	17-08-2025

Table 2.6.2: List of student completed MOOCs in Academic Year 2024-25

Sl. No.	University Roll Number	Name	MOOCs Course Name	MOOCs Platform Name	Duration in Weeks/Hours	Number of Credit	Month and Year of Completion	Issuing Date of Certificate
1	12000122008	SUMAN CHOWDHURY	Convolutional Neural Networks	COURSE RA	32 Hours	4	June 21, 2025	June 21, 2025
2	12000123023	ARNAB GHOSH	Python and Flask Framework Complete course	UDEMY	12.5 Hours	1	June, 2025	19-06-2025
3	12000123036	Dev Kumar Roy	gen Ai powered data analytics job stimulation	Tata forge	20 hours	1	Jun-25	24-06-2025
4	120001244064	HIRAN GUHA MAZUMDAR	Statistics and Informational Theory (AOCSI 201)	Add-on Classes/ Courses	16 weeks or more		Jun, 2025	16-05-2025

5	120001244 072	KOUSHAL KASHYAP	Statistics and Informational Theory (AOCSI 201)	Add-on Classes/ Courses	16 weeks or more		Jun, 2025	16-06-2025
6	120001244 092	NIHAL PRASAD	Statistics & Information Theory	Add-on course	20 hours	2	June, 2025	16-06-2025
7	120001244 116	Ritureema Acharya	solar energy and power	add on class	16 weeks		Jun-25	16-05-2025
8	120001230 24	ARNAB MAITY	C++ Programming- Beginner to Advance	UDEMY	12.5 Hours	1	May-25	10-05-2025
9	120001244 075	Kumaresh Basu	Master Python Programming: The Complete Beginner to Advanced	Udemy	24.5 Hours		May-25	28.05.2025
10	120001220 25	Upasana Ghosh	Microsoft Azure Cloud Fundamentals (AZ-900)	Microsoft	12 weeks	3	April, 2025	25-04-2025
11	120001220 27	MANIKA SARKAR	Learn MERN stack by building real-world applications with Node, Express, MongoDB, React and APIs	UDEMY	16 Hours	2	April, 2025	28-04-2025
12	120001220 27	MANIKA SARKAR	AI ML Projects	Simplilearn	8 Hours	1	April, 2025	29-04-2025
13	120001220 40	Sourik Bose	AWS Cloud Technical Essentials	COURSE RA	24 Hrs.	3	Apr-25	
14	120001220 55	SUMANA CHOWDHURY	Microsoft Azure Fundamentals (AZ-900)	Microsoft	12 weeks	3	April, 2025	25-04-2025
15	120001220 60	Titiksha Dalal	Microsoft Azure Cloud Fundamentals (AZ-900)	Microsoft	12 weeks	3	April, 2025	25-04-2025
16	120001243 011	Aranyak Samui	Blender 3D for Beginners Complete Modelling & Texturing guide	UDEMY	11.5 hours	1	Apr-25	09-04-2025
17	120001244 075	Kumaresh Basu	Python and Django Framework and HTML 5 Full Stack Complete Course	Udemy	11.5 Hours		Apr-25	23.04.2025

18	120001244 092	NIHAL PRASAD	Non- Conventional Energy: Fundamentals, Technologies, Applications, & Waste Management	Add-on course	30 hours	2	April, 2025	28-04- 2025
19	120001244 166	SRIJA RAY	Non- Conventional Energy: Fundamentals, Technologies, Applications, & Waste Management	Add-on Course	30 hours	2	April, 2025	28-04- 2025
20	120001244 166	SRIJA RAY	The Joy of Computing using Python	NPTEL	12 weeks	3	April, 2025	29-05- 2025
21	120001220 42	Soumyajit Khan	AWS Cloud Technical Essentials	COURSE RA	24 HOURS	3	Mar-25	20-03- 2025
22	120001230 19	Archak Khandayit	Full Stack Web Development by WB Web Development Solutions	CURSA	26 hours	3	March, 2025	26-03- 2025
23	120001231 10	Supreme Dey	Javascript by The Net Ninja	40 Hours	40 Hours	4	Mar-25	12.09.20 25
24	120001244 075	Kumaresh Basu	CSS, JavaScript, PHP And Python Programming All in One Course	Udemy	10 Hours		Mar-25	14.03.20 25
25	120001244 166	SRIJA RAY	Basic Linear Algebra	NPTEL	8 weeks	2	March, 2025	29-05- 2025
26	120001220 42	Soumyajit Khan	Data Science using Python	AICT	Course s of 4 weeks to 7 weeks	1	Feb-25	04-02- 2025
27	120001230 28	AYON PAUL	JavaScript From Scratch (Part 1 - Beginner Level)	UDEMY	4.5 Hours	0	Jan-25	27-01- 2025
28	120001230 32	Biswajit Pal	JavaScript From Scratch (Part 1 - Beginner Level)	UDEMY	4.5 hours	1	January, 2025	27-01- 2025
29	120001243 011	Aranyak Samui	Basics of Python	INFOSYS	3 hours	1	Jan-25	17-01- 2025
30	120001220 55	SUMANA CHOWDHURY	Python	Infosys Springboa rd	8 weeks	2	Novembe r, 2024	05-11- 2024
31	120001230 19	Archak Khandayit	Basics of Python	INFOSYS	3 hours	1	Novembe r, 2024	17-11- 2024

32	12000123019	Archak Khandayit	Programming Fundamentals using Python - Part 2	INFOSYS	20 hours	2	November, 2024	03-11-2024
33	12000123032	Biswajit Pal	Programming Fundamentals using Python - Part 2	INFOSYS	20 hours	1	November, 2024	02-11-2024
34	12000123060	PRITHHIB NANDI	Course 1 – Basics of Python	INFOSYS	3 Hours	1	November 15, 2024	November 15, 2024
35	12000123060	PRITHHIB NANDI	Course 2 – Programming Fundamentals using Python - Part 1	INFOSYS	40 Hours	2	November 15, 2024	November 15, 2024
36	12000123060	PRITHHIB NANDI	Course 3 – Programming Fundamentals using Python - Part 2	INFOSYS	43 Hours	2	November 15, 2024	November 15, 2024
37	12000123070	Rohit Kumar	Course 1 – Basics of Python	INFOSYS	3 Hours	1	November 15, 2024	November 15, 2024
38	12000123070	Rohit Kumar	Course 2 – Programming Fundamentals using Python - Part 1	INFOSYS	40 Hours	2	November 15, 2024	November 15, 2024
39	12000123070	Rohit Kumar	Course 3 – Programming Fundamentals using Python - Part 2	INFOSYS	43 Hours	2	November 15, 2024	November 15, 2024
40	12000123073	Ruchi Kumari	Course 1 – Basics of Python	INFOSYS	3 Hours	1	November 15, 2024	November 15, 2024
41	12000123073	Ruchi Kumari	Course 2 – Programming Fundamentals using Python - Part 1	INFOSYS	40 Hours	2	November 15, 2024	November 15, 2024
42	12000123073	Ruchi Kumari	Course 3 – Programming Fundamentals using Python - Part 2	INFOSYS	43 Hours	2	November 15, 2024	November 15, 2024
43	12000123093	Simran KUmari	Course 1 - Basics of Python	INFOSYS	3 Hours	1	November 15, 2024	
44	12000123093	Simran KUmari	Course 2 - Programming Fundamentals using Python - Part 1	INFOSYS	40 Hours	2	November 15, 2024	
45	12000123093	Simran KUmari	Course 3 - Programming Fundamental using Python - Part 2	INFOSYS	43 Hours	2	November 15, 2024	

46	12000123101	Soumyadip Nandi	Programming Fundamental using Python Part-1	INFOSYS	40 Hours	2	Nov-24	14.12.2024
47	12000123101	Soumyadip Nandi	Programming Fundamental using Python Part-2	INFOSYS	40 Hours	2	Nov-24	14.12.2024
48	12000123110	Supreme Dey	Programming Fundamental using Python Part-1	INFOSYS	40 Hours	2	Nov-24	
49	12000123001	AAKANCHHA SINGH	Programming Fundamentals using Python - Part 1	INFOSYS	18 Hours	1	Oct-24	07-10-2024
50	12000123001	AAKANCHHA SINGH	Programming Fundamentals using Python - Part 2	INFOSYS	20 Hours	1	Oct-24	08-10-2024
51	12000123013	ANINDITA DUTTA	BASICS OF PYTHON	Infosys Springboard			October, 2024	01-10-2024
52	12000123013	ANINDITA DUTTA	PROGRAMMING FUNDAMENTALS USING PYTHON PART-1	INFOSYS				02-10-2024
53	12000123013	ANINDITA DUTTA	PROGRAMMING FUNDAMENTALS USING PYTHON PART-2	INFOSYS				23-10-2024
54	12000123019	Archak Khandayit	Programming Fundamentals using Python - Part 1	INFOSYS	18 hours	2	October, 2024	31-10-2024
55	12000123021	ARITRAJIT GUHA	Programming Fundamentals using Python - Part 1	INFOSYS	18 hours	1	October , 2024	30-10-2024
56	12000123021	ARITRAJIT GUHA	Programming Fundamentals using Python - Part 2	INFOSYS	20 hours	1	October , 2024	31-10-2025
57	12000123024	ARNAB MAITY	Programming Fundamentals using Python - Part 1	INFOSYS	18 Hours	1	Oct-24	26-08-2024
58	12000123024	ARNAB MAITY	Programming Fundamentals using Python - Part 2	INFOSYS	20 Hours	1	Oct-24	28-08-2024
59	12000123027	AYANTIKA MONDAL	Programming Fundamentals using Python - Part 1	INFOSYS	18 hours	1	October , 2024	31-10-2024

60	120001230 27	AYANTIKA MONDAL	Programming Fundamentals using Python - Part 2	INFOSYS	20 hours	1	October , 2024	31-10-2025
61	120001230 32	Biswajit Pal	Programming Fundamentals using Python - Part 1	INFOSYS	18 hours	1	October, 2024	26-10-2024
62	120001230 36	Dev Kumar roy	Basics of python	Infosys	3 hours	1	Oct-24	30-1024
63	120001230 36	Dev Kumar roy	programming fundamental using python -1	Infosys	40 hours	1	Oct-24	30-10-2024
64	120001230 36	Dev Kumar roy	programming fundamental using python -2	Infosys	43 hours	1	Oct-24	31-10-2024
65	120001230 38	Gaurav Kumar	Programming Fundamental using Python-1	INFOSYS	40 Hours	2	Oct-24	24.10.2024
66	120001230 38	Gaurav Kumar	Programming Fundamentals using Python - Part 2	INFOSYS	40 Hours	2	October, 2024	24.10.2024
67	120001230 44	Krishan Sarkar	Programming Fundamentals using Python - Part 1	Infosys	40 Hours	4	October, 2024	25-10-2024
68	120001230 44	Krishan Sarkar	Programming Fundamentals using Python - Part 2	Infosys	40 Hours	4	October, 2024	25-10-2024
69	120001230 58	Pritam Dutta	Programming Fundamental using Python-1	INFOSYS	40 Hours	2	Oct-24	24.10.2024
70	120001230 58	Pritam Dutta	Programming Fundamentals using Python - Part 2	INFOSYS	40 Hours	2	October, 2024	24.10.2024
71	120001230 75	SAGNIK BERA	Programming Fundamentals using Python - Part 1	INFOSYS	18 hours	1	October , 2024	31-10-2024
72	120001230 75	SAGNIK BERA	Programming Fundamentals using Python - Part 2	INFOSYS	20 hours	1	October , 2024	31-10-2025
73	120001231 08	SUJOY GARAI	Programming Fundamental using Python-1	INFOSYS	40 Hours	2	Oct-24	24.10.2024
74	120001231 08	SUJOY GARAI	Programming Fundamentals using Python - Part 2	INFOSYS	40 Hours	2	October, 2024	24.10.2024
75	120001231 09	SUMAN GORAI	Programming Fundamentals using Python - Part 1	INFOSYS	43.25 Hours	4	October, 2024	October 28, 2024

76	12000123109	SUMAN GORAI	Programming Fundamentals using Python - Part 2	INFOSYS	40.13 Hours	4	October, 2024	October 28, 2024
77	12000123116	SWAGATO MAJI		INFOSYS	40 Hours	2	Oct-24	24.10.2024
78	12000123116	SWAGATO MAJI	Programming Fundamentals using Python - Part 2	INFOSYS	40 Hours	2	October, 2024	24.10.2024
79	12000123123	VICKY RAJ	Programming Fundamental using Python-1	INFOSYS	40 Hours	2	Oct-24	20.10.2024
80	12000123123	VICKY RAJ	Programming Fundamental using Python-2	INFOSYS	43 Hours	2	Oct-24	20.10.2024
81	12000122048	Tulika Dutta	Crash Course on Python	COURSE RA	20 hrs	3	August, 2024	25-08-2024
82	12000122049	SOHAM DUTTA	Crash Course on Python	COURSE RA	20 hrs	3	August, 2024	25-08-2024
83	12000123019	Archak Khandayit	Web Development and Devops Cohort	100xDevs	16 weeks or more	4	August, 2024	02-08-2024
84	12000122055	SUMANA CHOWDHURY	Artificial Intelligence	Infosys Springboard	8 weeks	2	July, 2024	12-07-2024

Table 2.6.3: List of student completed MOOCs in Academic Year 2023-24

Sl. No.	University Roll Number	Name	MOOCs Course Name	MOOCs Platform Name	Duration in Weeks/Hours	Number of Credit	Month and Year of Completion	Issuing Date of Certificate
1	12000122005	SHREYAK MUKHERJEE	Mastering Data Structures and Algorithms using C and C++	UDEMY	32 Hours	4	May 8, 2024	May 8, 2024
2	12000122005	SHREYAK MUKHERJEE	Android app using Kotlin	SPOKEN TUTORIAL	8 weeks to 11 weeks	2	May 10, 2024	May 10, 2024
3	12000122008	SUMAN CHOWDHURY	Android app using Kotlin	SPOKEN TUTORIAL	8 weeks to 11 weeks	2	May 10, 2024	May 10, 2024
4	12000122027	MANIKA SARKAR	Android app using Kotlin	SPOKEN TUTORIAL	Courses of 8 weeks to 11 weeks	2	May, 2024	10-05-2024
5	12000122033	Toufik umar sekh	Android app using Kotlin	SPOKEN TUTORIAL	8 weeks to 11 weeks	2	May, 2024	10-05-2024

6	12000122042	Soumyajit Khan	Android app using Kotlin	SPOKEN TUTORIAL	8 weeks to 11 weeks	2	May-24	10-05-2024
7	12000122048	Tulika Dutta	Android app using Kotlin	SPOKEN TUTORIAL	8 weeks to 11 weeks	2	May, 2024	10-05-2024
8	12000122049	SOHAM DUTTA	Android app using Kotlin	SPOKEN TUTORIAL	8 weeks to 11 weeks	2	May, 2024	10-05-2024
9	12000122082	Kumar Hrishav	Android app using kotlin	SPOKEN TUTORIAL	8 weeks to 11 weeks	2	May, 2024	10-05-2024
10	12000122110	Debleena Maity	Android app using kotlin	SPOKEN TUTORIAL	8 weeks to 11 weeks	2	May, 2024	10-05-2024
11	12000123002	ABHIK DEY	AWS & React: Deploy an Auto-Scaling E-Commerce App with ELB	UDEMY	13.5 Hours	1	May-24	20-05-2024
12	12000123003	ABHIK MUKHERJEE	AWS & React: Deploy an Auto Scaling E-Commerce app with ELB	UDEMY	13.5 Hours	1	May, 2024	20-05-2024
13	12000122027	MANIKA SARKAR	Google Cybersecurity	Coursera	Courses of 16 weeks or more	4	April, 2024	08-04-2024
14	12000122081	Sandip Paul	The Complete Full-Stack Web Development Bootcamp	UDEMY	62 Hours	4	April 22, 2024	4-22-2024
15	12000123108	SUJOY GARAI	30 HTML CSS & JavaScript Projects A Beginners Guide to JS	Udemy	16 Hours	2	April 7, 2024	07-04-2024
16	12000123108	SUJOY GARAI	2024 Core JAVA Bootcamp from Zero to Hero	Udemy	16 Hours	2	April 27, 2024	07-04-2024

17	12000123044	Krishan Sarkar	Tools of the Trade: Linux and SQL	Coursera	24 Hours	3	March, 2024	26-03-2024
18	12000123108	SUJOY GARAI	2024 C Programming Bootcamp - The Complete C Language Course	Udemy	12 Hours	1	March 19, 2024	19-03-2024
19	12000122079	Debnath Das	Android app using Kotlin	SPOKEN TUTORIAL	Courses of 8 weeks to 11 weeks	2	Jan-24	10-05-2024
20	12000122089	Subhajit Halder	Android App Using Kotlin	Spoken Tutorial	Courses of 8 weeks to 11 weeks		January, 2024	10-05-2024
21	12000123044	Krishan Sarkar	Foundations of Cybersecurity	Coursera	8 Hours	1	December, 2023	14-12-2023
22	12000122005	SHREYAK MUKHERJEE	LINUX	SPOKEN TUTORIAL	8 weeks to 11 weeks	2	November 22, 2023	November 22, 2023
23	12000122005	SHREYAK MUKHERJEE	JAVA	SPOKEN TUTORIAL	16 weeks or more	4	November 22, 2023	November 22, 2023
24	12000122008	SUMAN CHOWDHURY	JAVA	SPOKEN TUTORIAL	16 weeks or more	4	November 22, 2023	November 22, 2023
25	12000122008	SUMAN CHOWDHURY	LINUX	SPOKEN TUTORIAL	8 weeks to 11 weeks	2	November 22, 2023	November 22, 2023
26	12000122019	Rajeshwari Das	Java	MOOCS	8 weeks	2	22-11-2023	12-05-2026
27	12000122019	Rajeshwari Das	Linux	MOOCS	8 weeks	2	22-11-2023	12-05-2026
28	12000122020	Survi Mukherjee	Java	MOOCS	8 weeks	2	22-11-2023	12-05-2026
29	12000122020	Survi Mukherjee	Linux	MOOCS	8 weeks	2	22-11-2023	12-05-2026
30	12000122025	Upasana Ghosh	Java	MOOCS	16 weeks or more	4	Nov, 2023	22-11-2023
31	12000122025	Upasana Ghosh	Linux	MOOCS	8 to 11 weeks	2	Nov, 2023	22-11-2023

32	12000122027	MANIKA SARKAR	Linux Training	SPOKEN TUTORIAL	Courses of 8 weeks to 11 weeks	2	November, 2023	22-11-2023
33	12000122027	MANIKA SARKAR	Java Training	SPOKEN TUTORIAL	Courses of 16 weeks or more	4	Nov-23	22-11-2023
34	12000122042	Soumyajit Khan	Linux	SPOKEN TUTORIAL	8 weeks to 11 weeks	2	Nov-23	22-11-2023
35	12000122042	Soumyajit Khan	Java	SPOKEN TUTORIAL	16 weeks	3	Nov-23	22-11-2023
36	12000122048	Tulika Dutta	Linux	SPOKEN TUTORIAL	8 weeks to 11 weeks	2	November, 2023	22-11-2023
37	12000122048	Tulika Dutta	Java	SPOKEN TUTORIAL	16 weeks	4	November, 2023	22-11-2023
38	12000122049	SOHAM DUTTA	Linux	SPOKEN TUTORIAL	8 weeks to 11 weeks	2	November, 2023	22-11-2023
39	12000122049	SOHAM DUTTA	Java	SPOKEN TUTORIAL	16 weeks	4	November, 2023	22-11-2023
40	12000122060	Titiksha Dalal	Java	MOOCS	16 weeks or more	4	Nov, 2023	22-11-2023
41	12000122060	Titiksha Dalal	Linux	MOOCS	8 to 11 weeks	2	Nov, 2023	22-11-2023
42	12000122062	Swati Dubey	Java	MOOCS	8 weeks	2	Nov 22nd 2023	
43	12000122062	Swati Dubey	Linux	MOOCS	8weeks	2	Nov 22nd 2023	
44	12000122079	Debnath Das	Linux	SPOKEN TUTORIAL	Courses of 8 weeks to 11 weeks	2	Nov-23	22-11-2023
45	12000122079	Debnath Das	JAVA	SPOKEN TUTORIAL	Courses of 16 weeks or more	4	Nov-23	22-11-2023
46	12000122082	Kumar Hrishav	Linux	SPOKEN TUTORIAL	8 weeks to 11 weeks	2	November, 2023	22-11-2023
47	12000122082	Kumar Hrishav	Java	SPOKEN TUTORIAL	16 weeks	4	November, 2023	22-11-2023

48	12000122086	Soumyaditya Bauri	The Complete Full-Stack Web Development Bootcamp	Udemy	61 hrs	4	11-15-2023	24-04-2024
49	12000122110	Debleena Maity	Linux	SPOKEN TUTORIAL	8 weeks to 11 weeks	2	November, 2023	22-11-2023
50	12000122110	Debleena Maity	Java	SPOKEN TUTORIAL	16 weeks	4	November, 2023	22-11-2023
51	12000122112	Siddhartha Pal	Linux	SPOKEN TUTORIAL	8 weeks to 11 weeks	2	November, 2023	22-11-2023
52	12000122112	Siddhartha Pal	Java	SPOKEN TUTORIAL	16 weeks	4	November, 2023	22-11-2023
53	12000123123	VICKY RAJ	Linux	SPOKEN TUTORIAL	8 weeks	2	22-Nov-23	22.11.2024
54	12000122008	SUMAN CHOWDHURY	Mastering Data Structures and Algorithms using C and C++	UDEMY	32 Hours	4	September 17, 2023	September 17, 2023

Table 2.6.4: List of student completed MOOCs in Academic Year 2022-23

Sl. No.	University Roll Number	Name	MOOC S Course Name	MOOCS Platform Name	Duration in Weeks/ Hours	Number of Credit	Month and Year of Completion	Issuing Date of Certificate
1	12000122005	SHREYAK MUKHERJEE	PYTHON 3.4.3	SPOKEN TUTORIAL	32 Hours	4	May 17, 2023	May 17, 2023
2	12000122008	SUMAN CHOWDHURY	PYTHON 3.4.3	SPOKEN TUTORIAL	32 Hours	4	May 17, 2023	May 17, 2023
3	12000122019	Rajeshwari Das	Python 3.4.3	MOOCS	8 weeks	2	17-05-2023	12-05-2026
4	12000122019	Rajeshwari Das	Latex	MOOCS	8 weeks	2	12-05-2023	12-05-2026
5	12000122020	Survi Mukherjee	Python 3.4.3	MOOCS	8 weeks	2	17-05-2023	12-05-2026
6	12000122020	Survi Mukherjee	Latex	MOOCS	8 weeks	2	12-05-2023	12-05-2026
7	12000122040	Sourik Bose	Python 3.4.3	SPOKEN TUTORIAL	8 weeks	2	17-05-2023	
8	12000122040	Sourik Bose	Latex	SPOKEN TUTORIAL	8 weeks	2	12-05-2023	

9	12000122062	Swati Dubey	Python 3.4.3	MOOCS	8weeks	2	May 17th 2023	
10	12000122062	Swati Dubey	Latex	MOOCS	8weeks	2	May 12th , 2023	
11	12000122079	Debnath Das	LATEX	SPOKEN TUTORIAL	16 hours	2	May-23	12-05-2023
12	12000122079	Debnath Das	Python 3.4.3	SPOKEN TUTORIAL	32 hours	4	May-23	17-05-2023
13	12000122082	Kumar Hrishav	Latex	SPOKEN TUTORIAL	16 Hours	2	May, 2023	12-05-2023
14	12000122082	Kumar Hrishav	Python 3.4.3	SPOKEN TUTORIAL	32 Hours	4	May, 2023	17-05-2023
15	12000122089	Subhajit Halder	LATEX	Spoken Tutorial	16 hours	2	May, 2023	12-05-2023
16	12000122110	Debleena Maity	Latex	SPOKEN TUTORIAL	16 Hours	2	May, 2023	12-05-2023
17	12000122110	Debleena Maity	Python 3.4.3	SPOKEN TUTORIAL	32 Hours	4	May, 2023	17-05-2023
18	12000122019	Rajeshwari Das	Cloud Computing	AZ-900	12 weeks	3	25-04-2023	12-05-2026
19	12000122020	Survi Mukherjee	Cloud Computing	AZ-900	12 weeks	3	25-04-2023	12-05-2026
20	12000122062	Swati Dubey	Cloud Computing	Azure Fundamentals-900	12 weeks	3	Aprl 25th 2023	12-05-2026
21	12000122033	Toufik umar sekh	linux	SPOKEN TUTORIAL	weeks 8 to 11	2	11-01-2023	22-11-2023

B. Scope for self-learning & facilities and its use. (03)

Self-learning course

Self-learning enables students to develop independent learning habits, critical thinking, and problem-solving skills by exploring topics beyond the regular curriculum: libraries, online courses, research databases, and educational platforms, students can learn at their own pace, deepen their subject knowledge, enhance research ability preparing themselves for academic success, higher studies, and future professional careers.

PO & PSO Addressed:

PO1: Engineering Knowledge Self-learning strengthens students understanding of computer science fundamentals, engineering principles, and emerging technologies

PO2: Students develop critical thinking, analytical reasoning, and problem-solving abilities by exploring topics beyond the curriculum and evaluating different applications

PO3: Design/Development of Solutions Self-learning equips students with the knowledge and skills required to design, develop, and implement innovative computing solutions

PSO1:

Apply principles of computer science to develop efficient computing solutions for complex real-world problems. Self-learning enables students to independently acquire analytical thinking, and apply computer science principles to solve complex real-world problems.

PSO2:

Design and develop reliable software systems using modern programming languages, tools, frameworks, and contemporary computing platforms.

2.7 Solving Complex Engineering Problems Incorporating Sustainability Goals (20)

2.7. Solving Complex Engineering Problems Incorporating Sustainability Goals (20)

List of complex engineering problems from different courses/activities/mini projects, etc. along with the targeted SDGs.

Objective

To encourage students to solve complex engineering problems by applying technical knowledge, innovation, critical thinking, and sustainable engineering practices. world solutions aligned with the United Nations Sustainable Development Goals (SDGs), fostering creativity, teamwork, leadership, and industry readiness.

SDG 1: No Poverty

SDG 2: Zero Hunger

SDG 3: Good Health and Well-Being

SDG 4: Quality Education

SDG 5: Gender Equality

SDG 6: Clean Water and Sanitation

SDG 7: Affordable and Clean Energy

SDG 8: Decent Work and Economic Growth

SDG 9: Industry, Innovation and Infrastructure

SDG 10: Reduced Inequalities

SDG 11: Sustainable Cities and Communities

SDG 12: Responsible Consumption and Production

SDG 13: Climate Action

SDG 14: Life Below Water

SDG 15: Life on Land

SDG 16: Peace, Justice and Strong Institutions

SDG 17: Partnerships for the Goals

Tec Fest: Promotes innovation for sustainable technologies (SDG 9: Industry, Innovation and Infrastructure)

Hackathon (BCREC/ Other Organization): Develops solutions for societal and environmental challenges (SDG 11: Sustainable Cities and Communities, SDG 13

Boot Camp: Enhances technical and entrepreneurial skills for sustainable development (SDG 4: Quality Education)

Leet Code / Code Chef: Leet Code and Code Chef are online coding platforms that help students improve their programming, problem-solving, algorithmic thinking challenges, contests, and practice problems.

Coding Competition: Encourages development of optimized and sustainable software solutions (SDG 9)

IBM Great Minds Challenges: Promotes industry-oriented innovation and responsible technology development (SDG 8: Decent Work and Economic Growth, SDG 9)

Smart Indian Hackathon: Addresses national challenges in healthcare, agriculture, energy, education, and smart governance (SDG 3, 4, 7, 9, 11)

Capture The Flag (CTF): Enhances cyber security awareness and secure digital infrastructure (SDG 9, SDG 16: Peace, Justice and Strong Institutions)

Technical Poster / Technical Magazine: Encourages dissemination of sustainable engineering ideas and research findings (SDG 4, SDG 9)

Table 2.7.1: List of student participated in Solving Complex Engineering Problems (SDG) in Academic Year 2025-26

Sl. No.	University Roll Number	Name	Problem Topic/ Project Title/ Event	Category of Event	Organizing Institute	Date of Event	Month and Year of Event	Issuing Date of Certificate
1	12000122019	RAJESHWARI DAS	DOUBLE SLASH 4.0	HACKATHON	IEEE, JADAVPUR UNIVERSITY	09-06-2026	Mar-26	
2	120001243011	Aranyak Samui	Atlassian Forge Quest	Hackathon	Devpost	20-05-2026	May-25	NA
3	120001244033	Arpan Dhara	IPR Ideathon Winner	Hackathon	BCREC, DURGAPUR	06-05-2026	May-26	NA

4	120001244064	HIRAN GUHA MAZUMDAR	Bootcamp on Unmanned Aerial System & Related Technology	Bootcamp	National Institute of Technology, Durgapur	11-05-2026 to 15-05-2026	May, 2026	15-05-2026
5	120001244092	NIHAL PRASAD	Blueprint 26	Technical Poster Competition	BCREC, Durgapur	05-05-2026	May, 2026	05-05-2026
6	120001244104	PREM KUMAR SAW	INDIMIND,26	Tech Event	BCREC, Durgapur	06-05-2026	May, 2026	
7	120001244137	SASWATA AKULI	BOOTCAMP ON UNMANNED AERIAL SYSTEM & RELATED TECHNOLOGY	BOOTCAMP	NATIONAL INSTITUTE OF TECHNOLOGY , DURGAPUR	11-05-2026	MAY , 2026	15-05-2026
8	120001244143	SAYON BISWAS	IPR Ideathon	Hackathon	BCREC, Durgapur	06-05-2026	May, 2026	NA
9	120001244175	Sukalpa Chakraborty	IPR Ideathon	Hackathon	BCREC, Durgapur	06-05-2026	May, 2026	NA
10	120001254116	SAYANDEE P CHANDA	IPR Ideathon 2026	Ideathon	IPR Cell, BCREC, Durgapur	06-05-2026	May, 2026	13-05-2026
11	120001254118	SEMONTI ROY	IPR Ideathon 2026	Ideathon	IPR Cell, BCREC, Durgapur	06-05-2026	May, 2026	13-05-2026
12	120001254118	SEMONTI ROY	Indiminds 2026	Tech Event	Entrepreneurship Developement Cell, BCREC	07-05-2026	May, 2026	17-05-2026
13	120001254134	SOMDEEP GORAI	XRCC, 2026 (CCTV Intruder Detector)	Hackathon	XRCC,Berlin,Germany	06-05-2026	April, 2026	NA
14	120001254135	SOMJITA NASKAR	Indiminds 2026	Tech Event	Entrepreneurship Developement Cell, BCREC	07-05-2026	May, 2026	17-05-2026
15	12000122019	RAJESHWARI DAS	hhorizon 2023	TECH FEST	BCREC, DURGAUR	27-04-2026		
16	12000122020	Survi Mukherjee	IOT Bidwars	TechFest	Jadavpur University	09-04-2026	April, 2026	12-04-2026
17	12000123002	ABHIK DEY	IDE Bootcamp: AICTE	Bootcamp	BCREC, Durgapur	11-04-2026	April , 2026	11 -04-2026
18	12000123023	ARNAB GHOSH	Code-for-Change2.0 (WrathOps: CLI tool for automated codebase security)	Hackathon	NSHM, Durgpaur	12-04-2026	April, 2026	12-04-2026
19	12000123023	ARNAB GHOSH	IDE Bootcamp: AICTE	Bootcamp	BCREC	11-04-2026	April, 2026	11-04-2026
20	12000123027	AYANTIKA MONDAL	IoT Bidwars	Hackathon	Jadavpur University	09-04-2026	April, 2026	14-04-2026
21	12000123028	AYON PAUL	Code-for-Change2.0 (WrathOps: CLI tool for automated codebase security)	Hackathon	NSHM, Durgpaur	12-04-2026	April, 2026	12-04-2026
22	12000123028	AYON PAUL	IDE Bootcamp: AICTE	Bootcamp	BCREC, Durgapur	11-04-2026	#####	11-04-2026

23	12000123043	Koyel Kumar	HackTropica	Hackathon	Robotics Club of Asansol Engineering College	04-04-2026	April, 2026	NA
24	12000123110	Supreme Dey	Code-for-Change2.0 (Smart Railway Tracking And Anti Collision System)	Hackathon	NSHM, Durgapur	12-04-2026	April, 2026	12-04-2026
25	12000123120	TANUSHRE E MONDAL	IoT Bidwars	Hackathon	Jadavpur University	09-04-2026	Apr-26	14-04-2026
26	12000123003	ABHIK MUKHERJEE	IDE Bootcamp: AICTE	Bootcamp	BCREC, Durgapur	11-04-2026	April , 2026	11-04-2026
27	120001244033	Arpan Dhara	Hack-O-NiT Finalist	Hackathon	Narula Institute of Technology	07-04-2026	Apr-26	08-04-2026
28	120001244058	DIVYA KUMARI	LOGO MAKING COMPETITION	ELITE CREATORS CLUB	BCREC, Durgapur	28-04-2026	April, 2026	NA
29	120001244098	PIYUSH RAJ	LOGO MAKING COMPETITION	ELITE CREATORS CLUB	BCREC, Durgapur	28-04-2026	Apr-26	NA
30	120001244116	Ritureema Acharya	ace the case	tech fest	Jadavpur University	10-04-2026	Apr-26	10-04-2026
31	120001244116	Ritureema Acharya	StratedgeX	tech fest	Jadavpur University	11-04-2026	Apr-26	11-04-2026
32	120001244164	SOURAV MAHATO	HACKTOPUS	HACKATHON	BCREC, DURGAPUR	20-04-2026	April, 2026	05-08-2025
33	120001253001	Arijit Ghosh	HACKATHON:CODE FOR CHANGE 2.0	Hackathon	NSHM,Durgapur	10-04-2026	April, 2026	10-04-2026
34	120001253004	Raika dey	HACKATHON:CODE FOR CHANGE 2.0	Hackathon	NSHM, Durgapur	10-04-2026	April, 2026	10-04-2026
35	120001253006	TISTA PAL	HACKATHON:CODE FOR CHANGE 2.0	Hackathon	NSHM,Durgapur	10-04-2026	April, 2026	10-04-2026
36	120001254116	SAYANDEE P CHANDA	Fire Safety Workshop (NSS)	Tech Event	NSS Cell, BCREC, Durgapur (in assoc. with DSP)	16-04-2026	April, 2026	18-05-2026
37	120001254118	SEMONTI ROY	Fire Safety Workshop (NSS)	Tech Event	NSS Cell, BCREC, Durgapur (in assoc. with DSP)	16-04-2026	April, 2026	18-05-2026
38	120001254134	SOMDEEP GORAI	Fire Safety Workshop (NSS)	Tech Event	BCREC, DURGAPUR	16-04-2026	April, 2026	18-05-2026
39	120001254135	SOMJITA NASKAR	Fire Safety Workshop (NSS)	Tech Event	NSS Cell, BCREC, Durgapur (in assoc. with DSP)	16-04-2026	April, 2026	18-05-2026
40	12000122020	Survi Mukherjee	Double Slash 3.0	Hackathon	Jadavpur University	08-03-2026	March, 2026	10-03-2026
41	12000122025	UPASANA GHOSH	DOUBLE SLASH 4.0	HACKATHON	IEEE JADAVPUR UNIVERSITY, SALT LAKE	09-03-2026	DOUBLE SLASH 4.1	
42	12000122060	Titiksha Dalal	DOUBLE SLASH 4.0	HACKATHON	IEEE JADAVPUR UNIVERSITY, SALT LAKE	09-03-2026	DOUBLE SLASH 4.0	

43	12000123023	ARNAB GHOSH	Binaryv2 (TARK: Privacy-First AI for Scam Analysis and Prevention)	Hackathon	Kalyani Government Engineering College	21-03-2026	March, 2026	22-03-2026
44	12000123028	AYON PAUL	Binaryv2 (TARK: Privacy-First AI for Scam Analysis and Prevention)	Hackathon	Kalyani Government Engineering College	21-03-2026	March, 2026	22-03-2026
45	12000123043	Koyel Kumar	DoubleSlash 4.0	Hackathon	IEEE JADAVPUR	08-03-2026	March, 2026	19.03.26
46	120001244164	SOURAV MAHATO	CODEFEST26	HACKATHON	IIT BHU	15-03-2026	March, 2026	23-04-2026
47	120001253001	Arijit Ghosh	GRAD GURU WEBINER	WEBINER	ONLINE	28-03-2026	March, 2026	28-03-2026
48	12000122047	Meraj Hussain	Avalanche Build Games	Hackathon	Avalanche Builder Hub	20-02-2026	February, 2026	27-03-2026
49	12000122069	Nandini Pandey	Avalanche Build Games	Startup Hackathon	Avalanche Builder Hub	20-02-2026	February, 2026	27-03-2026
50	12000123023	ARNAB GHOSH	The UI Strikes Back	Hackathon	WeMakeDevs	02-02-2026	February, 2026	04-03-2026
51	12000123028	AYON PAUL	WOC 5.0 (Open Source competition)	Tech Compitition	IIIT Kalyani	01-02-2026	Feb-26	21-04-2026
52	12000123028	AYON PAUL	Apertre 3.0 (Open Source Competition)	Tech Compitition	Resourcio Community	01-02-2026	Feb-26	05-04-2026
53	120001244058	DIVYA KUMARI	HORIZON 2026	TECH FEST	BCREC, Durgapur	11-02-2026	February, 2026	19-05-2026
54	120001244072	KOUSHAL KASHYAP	HORIZON-2026	TECH FEST	BCREC, Durgapur	10-02-2026	February, 2026	14-05-2026
55	120001254013	ANANYA BISWAS	TECHFEST, 2026	Techfest	BCREC	11-02-2026	February, 2026	19-05-2026
56	120001254015	ANANYA NANDI	HACKTROPICA X DEZINOVA	EVENT	ASANSOL ENGINEERING COLLEGE(AEC)	16-02-2026	February, 2026	06-05-2026
57	120001254016	ANANYA SAHA	HACKTROPICA X DEZINOVA	EVENT	ASANSOL ENGINEERING COLLEGE (AEC)	16-02-2026	February, 2026	06-05-2026
58	120001254017	ANANYA TEWARY	HACKTROPICA X DEZINOVA	EVENT	ASANSOL ENGINEERING COLLEGE(AEC)	16-02-2026	February, 2026	06-05-2026
59	120001254116	SAYANDEE P CHANDA	Blockchain Technology Event (HACKTROPICA x DEZINOVA)	Tech Event	HACKTROPICA x DEZINOVA, BCREC, Durgapur	16-02-2026	February, 2026	21-02-2026
60	120001254134	SOMDEEP GORAI	Horizon, 2026	Tech Fest	BCREC, Durgapur	11-02-2026	February, 2026	NA
61	120001254169	SUSMITA GHOSH	HACKTROPICA X DEZINOVA	EVENT	ASANSOL ENGINEERING COLLEGE(AEC)	16-02-2026	February, 2026	06-05-2026
62	120001254170	SUVADEEP KUNDU	HACKTROPICA X DEZINOVA	EVENT	ASANSOL ENGINEERING COLLEGE (AEC)	16-02-2026	February, 2026	06-05-2026
63	12000122020	Survi Mukherjee	IgniteX 2.0	TechFest	IMI Kolkata	30-01-2026	January, 2026	30-01-2026
64	12000122047	Meraj Hussain	Kshitij 26 - East India Blockchain Summit	Hackathon	IIT Kharagpur	17-01-2026	January, 2026	08-02-2026

65	12000122069	Nandini Pandey	Kshitij 26 - East India Blockchain Summit	TechFest	IIT Kharagpur	17-01-2026	January, 2026	08-02-2026
66	12000123002	ABHIK DEY	Hack Zenith (Online Exam System)	Hackathon	BCREC, Durgapur	02-01-2026	January, 2026	10-01-2026
67	12000123021	ARITRAJIT GUHA	Hack Zenith (RespiGuard: AI-powered respiratory health analysis)	Hackathon	BCREC, DURGAPUR	02-01-2026	January, 2026	10-01-2026
68	12000123023	ARNAB GHOSH	Hack Zenith (RespiGuard: AI-powered respiratory health analysis)	Hackathon	BCREC	02-01-2026	January, 2026	10-01-2026
69	12000123023	ARNAB GHOSH	SWOC 6.0 (Open Source competition)	Tech Compitition	Social Winter of Code	01-01-2026	January, 2026	13-04-2026
70	12000123032	Biswajit Pal	Hack Zenith (RespiGuard: AI-powered respiratory health analysis)	Hackathon	BCREC, Durgapur	02-01-2026	Jan-26	10-01-2026
71	12000123117	SWEETY PAUL	Hack Zenith (RespiGuard: AI-powered respiratory health analysis)	Hackathon	BCREC, DURGAPUR	02-01-2026	January, 2026	10-01-2026
72	12000123003	ABHIK MUKHERJEE	Hack Zenith (Online Exam System)	Hackathon	BCREC, Durgapur	02-01-2026	January, 2026	10-01-2026
73	120001243011	Aranyak Samui	BCREC-Infrastructure Management System, Hackzenith 2025-2026	Hackathon	BCREC, Durgapur	02-01-2026	December 2025 - January 2026	10-01-2026
74	120001244143	SAYON BISWAS	Hack Zenith	Hackathon	BCREC	02-01-2026	January, 2026	10-01-2026
75	120001244175	Sukalpa Chakraborty	Hack Zenith	Hackathon	BCREC	02-01-2026	January, 2026	10-01-2026
76	120001254116	SAYANDEE P CHANDA	Hack Zenith 2025	Hackathon	Google Developer Groups On Campus, BCREC, Durgapur	14-01-2026	January, 2026	01-03-2026
77	120001254134	SOMDEEP GORAI	HACK ZENITH (Campus Finder@BCREC)	Hackathon	BCREC, Durgapur	02-01-2026	January, 2026	10-01-2026
78	12000122020	Survi Mukherjee	Smart India Hackathon 2025	Hackathon	Ministry of Education(MoE), Govt.of India	08-12-2025	December, 2025	12-12-2026
79	12000123005	ADITI BANERJEE	Smart India Hackathon 2025	Hackathon	Ministry of Education(MoE), Govt.of India	08-12-2025	December, 2025	12-12-2025
80	12000123093	Simran Kumari	Smart India Hackathon 2025	Hackathon	Ministry of Education	08-12-2025	Dec-25	12.12.2025

81	12000123106	Subhayu Panja	Smart India Hackathon 2025 (Finalist)	HACKATHON	Coimbatore Innovation and Business Incubator(FORGE)	8.12.2025 - 12.12.2025	December, 2025	12.12.2025
82	120001244022	Ankita Kundu	SIH Grand Finale 2025	Hackathon	Sri Sri University, Cuttack	08-12-2025	Dec-25	09-12-2025
83	120001244028	Arghya Nayak	SIH Grand Finale 2025	Hackathon	Sri Sri University, Cuttack	08-12-2025	Dec-25	09-12-2025
84	120001244031	Arnav Deep	SIH Grand Finale 2025	Hackathon	Sri Sri University, Cuttack	08-12-2025	Dec-25	09-12-2025
85	120001244060	Durgesh Banerjee	SMART INDIA HACKATHON 2025 - GRAND FINALE	Hackathon	MoE (Nodal Center: Sri Sri University, Cuttack)	08-12-2025	December, 2025	09-12-2025
86	120001244064	HIRAN GUHA MAZUMDAR	SMART INDIA HACKATHON 2025 - GRAND FINALE	Hackathon	MoE (Nodal Center: Sri Sri University, Cuttack)	08-12-2025	December, 2025	09-12-2025
87	120001244075	Kumaresh Basu	SIH Grand Finale 2025	Hackathon	Sri Sri University, Cuttack	08-12-2025	December, 2025	09-12-2025
88	120001244095	PALLAV KUMAR MISHRA	BREAKING FRAMES	IEEEWOMEN IN ENGINEERING	BCREC, Durgapur	17-12-2025	December, 2025	30-01-2026
89	120001244095	PALLAV KUMAR MISHRA	TEC-EDGE-TALK	ACM	BCREC, Durgapur	09-12-2025	Sep-25	12-09-2025
90	12000122020	Survi Mukherjee	Triwizardathon	Hackathon	Microsoft, India	10-11-2025	November, 2025	01-12-2025
91	12000123052	Monoranjan Pal	Online to On Life	Workshop	BCREC, Durgapur	19-11-2025	November, 2025	NA
92	120001244095	PALLAV KUMAR MISHRA	CLOUD STUDY JAMS 2025	GOOGLE CLOUD STUDY JAMS 2025	BCREC, Durgapur	05-11-2025	November, 2025	NA
93	120001244098	PIYUSH RAJ	CLOUD STUDY JAMS 2025	GOOGLE CLOUD STUDY JAMS 2025	BCREC, Durgapur	05-11-2025	November, 2025	NA
94	120001254116	SAYANDEE P CHANDA	Poster Competition on National Education Day 2025	Poster Presentation Competition	Dept. of Basic Science & Humanities, BCREC, Durgapur	21-11-2025	November, 2025	27-04-2026
95	120001254118	SEMONTI ROY	Poster Competition on National Education Day 2025	Poster Presentation Competition	BCREC, Durgapur	21-11-2025	November, 2025	27-04-2026
96	120001254135	SOMJITA NASKAR	Poster Competition on National Education Day 2025	Poster Presentation Competition	BCREC, Durgapur	21-11-2025	November, 2025	27-04-2026
97	12000122020	Survi Mukherjee	SIH 2025: Internal Hackathon	Hackathon	BCREC, Durgapur	04-09-2025	September, 2025	NA

98	12000123019	Archak Khandayit	SIH 2025: Internal Hackathon	Hackathon	BCREC, Durgapur	18-09-2025	September, 2025	NA
99	12000123021	ARITRAJIT GUHA	SIH 2025: Internal Hackathon	Hackathon	BCREC, DURGAPUR	18-09-2025	September, 2025	X
100	12000123023	ARNAB GHOSH	SIH 2025: Internal Hackathon	Hackathon	BCREC	18-09-2025	September, 2025	X
101	12000123028	AYON PAUL	SIH 2025: Internal Hackathon	Hackathon	BCREC, Durgapur	18-09-2025	September, 2025	X
102	12000123032	Biswajit Pal	SIH 2025: Internal Hackathon	Hackathon	BCREC, Durgapur	18-09-2025	September, 2025	X
103	12000123043	Koyel Kumar	SIH 2025 : Internal Hackathon	Hackathon	BCREC, Durgapur	18-09-2025	September, 2025	NA
104	12000123081	SANTU GHOSH	SIH 2025: INTERNAL HACKATHON	HACKATHON	BCREC , DURGAPUR	18-09-2025	September, 2025	x
105	12000123117	SWEETY PAUL	SIH 2025: Internal Hackathon	Hackathon	BCREC, DURGAPUR	19-09-2025	September, 2025	
106	12000123120	TANUSHREE MONDAL	SIH 2025: Internal Hackathon	Hackathon	BCREC, Durgapur	19-09-2025	Sep-25	
107	120001243011	Aranyak Samui	SIH 2025 Internal Hackathon	Hackathon	BCREC, Durgapur	21-09-2025	Sep-25	NA
108	120001244045	Bidhusoumya Mondal	SIH-2025:Internal Hackathon	Hackathon	BCREC, Durgapur	19-09-2025	September, 2025	NA
109	120001244053	DEBJYOTI DAN	SMART INDIA HACKATHON 2025 (Internal)	HACKATHON	MoE, Govt. of India	21-09-2025	September, 2025	22-09-2025
110	120001244055	DEBOMITA SINGHA	SMART INDIA HACKATHON 2025 (INTERNAL)	HACKATHON	MoE, Govt. of India	21-09-2025	September, 2025	22-09-2025
111	120001244058	DIVYA KUMARI	Tech Event	Tech Event	BCREC, Durgapur	04-09-2025	September, 2025	NA
112	120001244081	MOUMIT MONDAL	SIH 2025: Internal Hackathon	Hackathon	BCREC, Durgapur	18-09-2025	September, 2025	22-09-2025
113	120001244086	NANDINI DAS	SIH 2025: Internal Hackathon	Hackathon	BCREC, Durgapur	19-09-2025	September, 2025	22-09-2025
114	120001244090	NAYAN RANJAN DAS	SIH 2025: Intelligent Pesticide Sprinkling System	Hackathon	BCREC, Durgapur	16-09-2025	September, 2025	NA
115	120001244092	NIHAL PRASAD	SIH 2025: Internal Hackathon	Hackathon	BCREC, Durgapur	19-09-2025	September, 2025	NA
116	120001244116	Ritureema Acharya	SIH 2025 internal hackathon	hackathon	bcrec, Durgapur	18-09-2025	Sep-25	NA
117	120001244125	RUPSA DAS	SIH 2025: Internal Hackathon	Hackathon	BCREC, Durgapur	18-09-2025	September, 2025	22-09-2025

118	120001244 129	SAITANA MONDAL	SIH 2025: Internal Hackathon	Hackathon	BCREC, Durgapur	19-09- 2025	September, 2025	NA
119	120001244 130	SAMPRITI GHOSH	SIH 2025: Internal Hackathon	Hackathon	BCREC, Durgapur	19-09- 2025	September, 2025	22-09- 2025
120	120001244 137	SASWATA AKULI	SIH 2025 : INTERNAL HACKATHON	HACKATH ON	BCREC , DURGAPUR	19-09- 2025	SEPTEMB ER , 2025	NA
121	120001244 143	SAYON BISWAS	SIH 2025: Internal Hackathon	Hackathon	BCREC, Durgapur	19-09- 2025	September, 2025	NA
122	120001244 166	SRIJA RAY	SIH 2025: Internal Hackathon	Hackathon	BCREC, Durgapur	19-09- 2025	September, 2025	23-09- 2025
123	120001244 174	Sudipto Chandra	SIH 2025: Intrnal Hackathon	Hackathon	BCREC, Durgapur	19-09- 2025	Sep-25	
124	120001244 175	Sukalpa Chakraborty	SIH 2025: Internal Hackathon	Hackathon	BCREC, Durgapur	19-09- 2025	September, 2025	NA
125	120001220 20	Survi Mukherjee	Bharatiya Antariksh Hackathon	Hackathon	ISRO India	16-08- 2025	August, 2025	30-08- 2025
126	120001230 43	Koyel Kumar	Adobe India Hackathon	Hackathon	ADOBE INDIA	27-08- 2025	August, 2025	27.08.25
127	120001230 93	Simran Kumari	Bharatiya Antariksha Hackathon	Hackathon	ISRO India	16-08- 2025	Aug-25	30.08.20 25
128	120001244 116	Ritureema Acharya	bootcamp on UAV	bootcamp	NIT durgapur	23-08- 2025	Aug-25	23-08- 2025
129	120001220 69	Nandini Pandey	Adobe India Hackathon	Hackathon	Adobe India	11-07- 2025	July, 2025	27-08- 2025
130	120001230 19	Archak Khandayit	Hacktopus (TrustBridge: P2P lending for unbanked users)	Hackathon	BCREC, Durgapur	19-07- 2025	July, 2025	09-08- 2025
131	120001230 21	ARITRAJIT GUHA	Hacktopus (Lawlink: AI- powered legal resource platform)	Hackathon	BCREC, DURGAPUR	19-07- 2025	July, 2025	09-08- 2025
132	120001230 21	ARITRAJIT GUHA	Adobe India Hackathon	Hackathon	ADOBE INDIA	14-07- 2025	July, 2025	16-08- 2025
133	120001230 23	ARNAB GHOSH	Adobe India Hackathon	Hackathon	Adobe India	14-07- 2025	July, 2025	16-08- 2025
134	120001230 23	ARNAB GHOSH	Hacktopus (TrustBridge: P2P lending for unbanked users)	Hackathon	BCREC	19-07- 2025	July, 2025	09-08- 2025
135	120001230 23	ARNAB GHOSH	Walmart Sparkathon	Hackathon	Walmart Inc. India	09-07- 2025	July, 2025	29-07- 2025
136	120001230 27	AYANTIKA MONDAL	Hacktopus 2025	Hackathon	BCREC , Durgapur	19-07- 2025	July, 2025	09-08- 2025
137	120001230 28	AYON PAUL	Hacktopus (TrustBridge: P2P lending for unbanked users)	Hackathon	BCREC	19-07- 2025	July, 2025	09-08- 2025

138	12000123028	AYON PAUL	Walmart Sparkathon	Hackathon	Walmart Inc. India	09-07-2025	July, 2025	29-07-2025
139	12000123028	AYON PAUL	Adobe India Hackathon	Hackathon	Adobe India	14-07-2025	July, 2025	16-08-2025
140	12000123117	SWEETY PAUL	Hacktopus (Lawlink: AI-powered legal resource platform)	Hackathon	BCREC, DURGAPUR	19-07-2025	July, 2025	09-08-2025
141	12000123117	SWEETY PAUL	Adobe India Hackathon	Hackathon	ADOBE INDIA	14-07-2025	July, 2025	16-08-2025
142	12000123120	TANUSHREE MONDAL	Hacktopus (Lawlink: AI-powered legal resource platform)	Hackathon	BCREC, Durgapur	19-07-2025	Jul-25	09-08-2025
143	120001244164	SOURAV MAHATO	ADOBE INDIA HACKATHON	HACKATHON	ADOBE INDIA	15-07-2025	July, 2025	27-08-2025

Table 2.7.2: List of student participated in Solving Complex Engineering Problems (SGD) in Academic Year 2024-25

Sl. No.	University Roll Number	Name	Problem Topic/ Project Title/ Event	Category of Event	Organizing Institute	Date of Event	Month and Year of Event	Issuing Date of Certificate
1	12000122047	Meraj Hussain	Hack4Bengal 4.0	Hackathon	Student led	20-06-2025	June, 2025	
2	12000123023	ARNAB GHOSH	Bharatiya Antariksh Hackathon (BAH)	Hackathon	Hack2skill x ISRO	19-06-2025	June, 2025	17-09-2025
3	12000123028	AYON PAUL	Bharatiya Antariksh Hackathon (BAH)	Hackathon	Hack2skill x ISRO	19-06-2025	June, 2025	17-09-2025
4	12000122055	SUMANA CHOWDHURY	BITS N BYTES	TECH MAGAZINE	BCREC , DURGAPUR	27-05-2025	May, 2024	05-06-2025
5	12000122058	RAHUL KARMAKAR	BITS N BYTES	TECH MAGAZINE	BCREC , DURGAPUR	27-05-2025	#####	05-06-2025
6	120001244116	Ritureema Acharya	BITS nd BYTES	tech magazine	bcrc, Durgapur	27-05-2025	na	na
7	120001244164	SOURAV MAHATO	TECHEXPO	HACKATHON	IIT GUWAHATI	12-05-2025	May, 2025	31-10-2025
8	12000122019	RAJESHWARI DAS	AAROHAN	HACKATHON	NIT Durgapur	20-04-2025	Apr-25	
9	12000122025	UPASANA GHOSH	AAROHAN	HACKATHON	NIT DURGAPUR	20-04-2025	AAROHAN	
10	12000122060	Titiksha Dalal	AAROHAN	HACKATHON	NIT DURGAPUR	20-04-2025	AAROHAN	
11	12000123023	ARNAB GHOSH	HackHazards	Hackathon	The Namespace Community	11-04-2025	April, 2025	26-05-2025
12	12000123028	AYON PAUL	HackHazards	Hackathon	The Namespace Community	11-04-2025	April, 2025	26-05-2025
13	12000123081	SANTU GHOSH	HACKTOPUS	HACKATHON	BCREC , DURGAPUR	14-04-2025	April, 2025	22-07-2025

14	12000123106	Subhayu Panja	Code For Change 2.0	HACKATHON	NSHM,Durgapur	10.4.2025 - 11.4.2025	April, 2025	11.04.2025
15	12000123125	Vishal kumar Roy	Hack4bengal	Hackathon	Virtual	18-04-2025	April, 2025	08-05-2025
16	12000123126	Rishika Burnwal	Hack4bengal	Hackathon	Virtual	18-04-2025	April, 2025	08-05-2025
17	12000122019	RAJESHWARI DAS	DOUBLE SLASH 3.0	HACKATHON	IEEE, JADAVPUR UNIVERSITY	09-03-2025	Mar-26	
18	12000122047	Meraj Hussain	Aarohan 25 - OnSpot Hackathon	Hackathon	NIT Durgapur	23-03-2025	March, 2025	23-03-2025
19	12000122069	Nandini Pandey	Aarohan 25 - OnSpot Hackathon	TechFest	NIT Durgapur	23-03-2025	March, 2025	23-03-2025
20	12000123019	Archak Khandayit	Code-for-Change (EduNexa: AI-powered smart education platform)	Hackathon	NSHM, Durgapur	21-03-2025	March, 2025	06-07-2025
21	12000123023	ARNAB GHOSH	Code-for-Change (EduNexa: AI-powered smart education platform)	Hackathon	NSHM, Durgapur	21-03-2025	March, 2025	06-07-2025
22	12000123028	AYON PAUL	Code-for-Change (EduNexa: AI-powered smart education platform)	Hackathon	NSHM, Durgapur	21-03-2025	March, 2025	06-07-2025
23	12000123060	PRITHIBI NANDI	Horizon-2025	TechFest	BCREC, Durgapur	03-03-2025	March, 2025	10-03-2025
24	12000123073	Ruchi Kumari	Horizon 2025	TechFest	BCREC, Durgapur	03-03-2025	March, 2025	10.10.2025
25	12000123075	SAGNIK BERA	Horizon-2025	TechFest	BCREC, Durgapur	03-03-2025	March, 2025	10-03-2025
26	120001244075	Kumaresb Basu	Horizon 2025	TechFest	BCREC, Durgapur	03-03-2025	March, 2025	10-10-2025
27	12000122025	UPASANA GHOSH	DOUBLE SLASH 3.0	HACKATHON	IEEE JADAVPUR UNIVERSITY, SALT LAKE	09-02-2025	DOUBLE SLASH 3.1	
28	12000122047	Meraj Hussain	FrostHacks 1.0	Hackathon	Academy of Technology	07-02-2025	February, 2025	27-02-2025
29	12000122060	Titiksha Dalal	DOUBLE SLASH 3.0	HACKATHON	IEEE JADAVPUR UNIVERSITY, SALT LAKE	09-02-2025	DOUBLE SLASH 3.0	
30	12000122069	Nandini Pandey	FrostHacks S01	Hackathon	Academy of Technology	07-02-2025	February, 2025	27-02-2025
31	12000123023	ARNAB GHOSH	JWOC (Open Source competition)	Tech Competition	Jalpaiguri Government Engineering College	10-02-2025	February, 2025	11-04-2025
32	12000123028	AYON PAUL	JWOC (Open Source competition)	Tech Competition	JALPAIGURI GOVERNMENT ENGINEERING COLLEGE	10-02-2025	Feb-25	11-04-2025

33	12000123100	Srestha Kundu	Horizon-2025	Tech Fest	BCREC, Durgapur	27-02-2025	February, 2025	10-03-2025
34	12000123126	Rishika Burnwal	Y-combinator, Horizon-2025	Tech fest	BCREC, Durgapur	28-02-2025	February, 2025	22-04-2025
35	12000124104	PREM KUMAR SAW	THE MATHEMATICAL ROOTS OF MACHINE LEARNING	WORKSHOP	BCREC, Durgapur	28-02-2025	FEBRUARY.2025	
36	12000123003	ABHIK MUKHERJEE	Horizon - 2025	Techfest / Tech Competition	BCREC, Durgapur	27-02-2025	February, 2025	07-03-2025
37	120001243007	SOURAV TANTI	DIVERSION 2K25	HACKATHON	INSTITUTE OF ENGINEERING AND MANAGEMENT (IEM), KOLKATA	22 - 02 - 2025 / 23 - 02 - 2025	February, 2025	31-03-2025
38	120001244073	KOYEL CHANDRA	Horizon - 2025	Tech fest	BCREC, Durgapur	27-02-2025	February, 2025	
39	120001244125	RUPSA DAS	Horizon 2025	Techfest	BCREC, Durgapur	28-02-2025	February, 2025	24-04-2025
40	120001244179	Sutapa Maity	Horizon - 2025	Tech fest	BCREC, Durgapur	27-02-2025	Feb , 2025	
41	12000123001	AAKANCHHA SINGH	Hack Zenith (Online Exam System)	Hackathon	BCREC, Durgapur	02-01-2025	January, 2026	10-01-2026
42	12000123038	Gaurav Kumar	Horizon 2025	TechFest	BCREC, Durgapur	18-01-2025	January, 2025	NA
43	120001244104	PREM KUMAR SAW	STEP INTO XR	WORKSHOP	BCREC, Durgapur	21-01-2025	January, 2025	
44	12000123052	Monoranjan Pal	Wall Magazine	Wall Magazine competition	LABPUR,BIRBHUM	01-12-2024	December, 2024	01-03-2025
45	12000123052	Monoranjan Pal	Dance Competition	Dance Competition	LABPUR,BIRBHUM	01-12-2024	December, 2024	01-12-2024
46	12000122047	Meraj Hussain	JU E-Summit - LaunchX, HacknPitch	Hackathon	Jadavpur University	17-11-2024	November, 2024	27-12-2023
47	12000122069	Nandini Pandey	JU E-Summit - LaunchX, HacknPitch	TechFest	Jadavpur University	17-11-2024	November, 2024	27-12-2024
48	12000123027	AYANTIKA MONDAL	HackerRank	Coding Competition	BCREC, Durgapur	15-11-2024	Nov-24	NA
49	12000123123	VICKY RAJ	WHITE HAT HACKING	MAGAZINE: BITS N BYTES	BCREC, Durgapur	22-10-2024	September, 2024	02-09-2024
50	12000122003	SAYAN KUMAR DHAR	SIH 2024: Internal Hackathon	Hackathon	BCREC, Durgapur	03-09-2024	September, 2024	NA
51	12000122005	SHREYAK MUKHERJEE	SIH 2024: Internal Hackathon	Hackathon	BCREC, Durgapur	03-09-2024	September, 2024	NA
52	12000122006	GOKUL PAL	INTERNAL HACKATHON-SIH(2024)	HACKATHON	BCREC, Durgapur	03-09-2024	September, 2024	NA

53	12000122007	SOUNAK MOITRA	SIH 2024: Internal Hackathon	Hackathon	BCREC, Durgapur	03-09-2024	September, 2024	NA
54	12000122008	SUMAN CHOWDHURY	SIH 2024: Internal Hackathon	Hackathon	BCREC, Durgapur	03-09-2024	September, 2024	NA
55	12000122021	RIMA GORAI	Internal Hackathon-2023	HACKATHON	BCREC, Durgapur	03-09-2024	September, 2024	NA
56	12000122027	MANIKA SARKAR	SIH 2024: Internal Hackathon	Hackathon	BCREC, Durgapur	03-09-2024	September, 2024	NA
57	12000122027	MANIKA SARKAR	Red Hat System Administration I	Workshop & Seminar	BCREC, Durgapur	18-09-2024	November, 2024	18-11-2024
58	12000122047	Meraj Hussain	SIH 2024: Internal Hackathon	Hackathon	BCREC, Durgapur	03-09-2024	September, 2024	NA
59	12000122055	SUMANA CHOWDHURY	Internal Hackathon (sih-2024)	Hackathon	BCREC , DURGAPUR	03-09-2024	September, 2024	NA
60	12000122058	RAHUL KARMAKAR	Internal Hackathon (sih-2024)	Hackathon	BCREC , DURGAPUR	03-09-2024	September, 2024	NA
61	12000122069	Nandini Pandey	SIH 2024: Internal Hackathon	Hackathon	BCREC, Durgapur	03-09-2024	September, 2024	NA
62	12000123005	ADITI BANERJEE	SIH 2024: Internal Hackathon	Hackathon	BCREC, Durgapur	04-09-2024	September , 2024	NA
63	12000123019	Archak Khandayit	SIH 2024: Internal Hackathon	Hackathon	BCREC, Durgapur	04-09-2024	September, 2024	NA
64	12000123027	AYANTIKA MONDAL	SIH 2024: Internal Hackathon	Hackathon	BCREC, Durgapur	04-09-2024	September , 2024	NA
65	12000123032	Biswajit Pal	SIH 2024: Internal Hackathon	Hackathon	BCREC, Durgapur	04-09-2024	September, 2024	X
66	12000123038	Gaurav Kumar	Techatron	Hackathon	BCREC, Durgapur	04-09-2024	September, 2024	NA
67	12000123096	Sneha Roy	SIH 2024: Internal Hackathon	Hackathon	BCREC, Durgapur	03-09-2024	September, 2024	NA
68	12000123100	Srestha Kundu	SIH 2024: Internal Hackathon (Mentor-Mentee Connect)	Hackathon	BCREC, Durgapur	03-09-2024	September, 2024	NA
69	12000123116	SWAGATO MAJI	SIH 2024: Internal Hackathon	Hackathon	BCREC, Durgapur	04-09-2024	September , 2024	NA
70	12000123117	SWEETY PAUL	SIH 2024: Internal Hackathon	Hackathon	BCREC, DURGAPUR	04-09-2024	September, 2024	
71	12000123120	TANUSHREE MONDAL	SIH 2024: Internal Hackathon	Hackathon	BCREC, Durgapur	04-09-2024	Sep-24	
72	12000123123	VICKY RAJ	SIH 2024: Internal Hackathon	Hackathon	BCREC, Durgapur	04-09-2024	September, 2024	NA
73	120001244104	PREM KUMAR SAW	DONATING BLOOD VOLUNTARILY	EVENT	BCREC, Durgapur	13-09-2024	September, 2024	
74	12000122020	Survi Mukherjee	Google Solution Challenge 2025	Hackathon	BCREC, Durgapur	20-08-2024	August, 2025	18-09-2025
75	12000122069	Nandini Pandey	StatusCode 1	Hackathon	IIIT Kalyani	24-08-2024	August, 2024	25-08-2024
76	12000123021	ARITRAJIT GUHA	CODEVOX (ACM CHAPTER)	Coding Competition	BCREC, DURGAPUR	30-08-2024	August, 2024	19-09-2024

77	12000122027	MANIKA SARKAR	Awareness Workshop on High Performance Computing	Workshop & Seminar	BCREC, Durgapur	24-07-2024	July, 2024	24-07-2024
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Table 2.7.3: List of student participated in Solving Complex Engineering Problems (SGD) in Academic Year 2023-24

Sl. No.	Universiry Roll Number	Name	Problem Topic/ Project Title/ Event	Category of Event	Organizing Institute	Date of Event	Month and Year of Event	Issuing Date of Certificate
1	12000122006	GOKUL PAL	BITS N BYTES	TECH MAGAZINE	BCREC, Durgapur	02-06-2024	June, 2024	02-08-2024
2	12000122021	RIMA GORAI	BITS N BYTES	TECH MAGAZINE	BCREC, Durgapur	02-06-2024	June, 2024	02-08-2024
3	12000122027	MANIKA SARKAR	BITS N BYTES	TECH MAGAZINE 2024	BCREC, Durgapur	02-06-2024	June, 2024	02-08-2024
4	12000122069	Nandini Pandey	Myntra WeforShe	Hackathon	Myntra	13-06-2024	June, 2024	23-08-2024
5	12000122069	Nandini Pandey	Hack4Bengal 3.0	Hackathon	Student-led initiative	28-06-2024	June, 2024	13-08-2024
6	12000123052	Monoranjana Pal	Tree Planting Event	Tree Planting	LABPUR, BIRBHUM	05-06-2024	June, 2024	15-08-2025
7	12000122025	UPASANA GHOSH	BITS N BYTES	TECH MAGAZINE	BCREC , DURGAPUR	25-05-2024	BITS N BYTES	
8	12000122055	SUMANA CHOWDHURY	BITS N BYTES	TECH MAGAZINE	BCREC , DURGAPUR	25-05-2024	May, 2024	03-06-2024
9	12000122060	Titiksha Dalal	BITS N BYTES	TECH MAGAZINE	BCREC , DURGAPUR	25-05-2024	BITS N BYTES	
10	12000122069	Nandini Pandey	Inno Venture Expo 2024	Hackathon	BCREC, Durgapur	10-05-2024	May, 2024	NA
11	12000123041	Kaushani Koner	Poster Competition (National Science Day)	Poster Making Competition	BCREC, Durgapur	06-03-2024	March, 2024	06-03-2024
12	12000123043	Koyel Kumar	Poster/Model Competition	Poster Making Competition	BCREC, Durgapur	06-03-2024	March, 2024	6.03.24
13	12000123096	Sneha Roy	Model Making(National Science Day)	Model Making Competition	BCREC, Durgapur	06-03-2024	Mar-24	06-03-2024
14	12000123100	Srestha Kundu	Model Making(National Science Day)	Model Making Competition	BCREC, Durgapur	06-03-2024	Mar-24	06-03-2024

15	12000123109	SUMAN GORAI	Poster Competition on National Science Day	Poster Making Competition	BCREC, Durgapur	06-03-2024	Mar-24	06-03-2024
16	12000123117	SWEETY PAUL	Poster Competition on National Science Day	Poster Making Competition	BCREC, DURGAPUR	06-03-2024	March, 2024	06-03-2024
17	12000123120	TANUSHREE MONDAL	Poster Competition on National Science Day	Poster Making Competition	BCREC, Durgapur	06-03-2024	Mar-24	06-03-2024
18	12000122003	SAYAN KUMAR DHAR	Horizon-2024	TechFest	BCREC, Durgapur	16-01-2024	January, 2023	20-01-2024
19	12000122005	SHREYAK MUKHERJEE	Horizon-2024	TechFest	BCREC, Durgapur	16-01-2024	January, 2023	20-01-2024
20	12000122006	GOKUL PAL	HORIZON-2024	TECHFEST	BCREC, Durgapur	16-01-2024	January, 2024	20-01-2024
21	12000122007	SOUNAK MOITRA	Horizon-2024	TechFest	BCREC, Durgapur	16-01-2024	January, 2023	20-01-2024
22	12000122008	SUMAN CHOWDHURY	Horizon-2024	TechFest	BCREC, Durgapur	16-01-2024	January, 2023	20-01-2024
23	12000122021	RIMA GORAI	HORIZON-2024	TECH FEST	BCREC, Durgapur	16-01-2024	January, 2024	20-01-2024
24	12000122027	MANIKA SARKAR	Horizon-2024	Techfest	BCREC, Durgapur	16-01-2024	January, 2024	20-01-2024
25	12000122069	Nandini Pandey	BuildForBharat	Hackathon	ONDC	31-01-2024	January, 2024	NA
26	12000123038	Gaurav Kumar	Horizon 2024	TechFest	BCREC, Durgapur	18-01-2024	January, 2024	NA
27	12000123041	Kaushani Koner	Horizon - 2024	TechFest	BCREC, Durgapur	17-01-2024	January, 2024	NA
28	12000123052	Monoranjana Pal	Horizon-2024	Tech Fest	BCREC, Durgapur	17-01-2024	January, 2024	NA
29	12000123058	Pritam Dutta	Horizon 2024	TechFest	BCREC, Durgapur	18-01-2024	January, 2024	na
30	12000123060	PRITHIBI NANDI	Horizon-2024	TechFest	BCREC, Durgapur	16-01-2024	January, 2024	20-01-2024
31	12000123070	Rohit Kumar	Horizon-2024	TechFest	BCREC, Durgapur	16-01-2024	January, 2-23	20-01-2024
32	12000123073	Ruchi Kumari	Horizon 2024	TechFest	BCREC, Durgapur	16-01-2024	January, 2024	January, 2024
33	12000123075	SAGNIK BERA	Horizon-2024	TechFest	BCREC, Durgapur	16-01-2024	January, 2024	20-01-2024
34	12000123093	Simran Kumari	Horizon 2024	Techfest	BCREC Durgapur	16-01-2024	Jan-24	20.01.2024
35	12000123123	VICKY RAJ	Techatron	Hackathon	BCREC, Durgapur	16-01-2024	January, 2024	19-01-2024
36	12000122069	Nandini Pandey	DevSculpt Innovathon	Hackathon	BCREC, Durgapur	21-09-2023	September, 2023	05-10-2023
37	12000123021	ARITRAJIT GUHA	Poster Competition on Engineers Day	Poster Making Competition	BCREC, DURGAPUR	15-09-2023	September, 2025	15-09-2023

38	12000123096	Sneha Roy	Poster Making(Engineers Day)	Poster Making Competition	BCREC, Durgapur	15-09-2023	September, 2023	15-09-2024
39	12000123100	Srestha Kundu	Poster Making(Engineers Day)	Poster Making Competition	BCREC, Durgapur	15-09-2023	September, 2023	15-09-2024
40	12000123117	SWEETY PAUL	Poster Competition on Engineers Day	Poster Making Competition	BCREC, DURGAPUR	15-09-2023	September, 2023	15-09-2023
41	12000123120	TANUSHREE MONDAL	Poster Competition on Engineers Day	Poster Making Competition	BCREC, Durgapur	15-09-2023	Sep-23	15-09-2023

Table 2.7.4: List of student participated in Solving Complex Engineering Problems (SGD) in Academic Year 2022-23

Sl. No.	University Roll Number	Name	Problem Topic/ Project Title/ Event	Category of Event	Organizing Institute	Date of Event	Month and Year of Event	Issuing Date of Certificate
1	12000122025	UPASANA GHOSH	HORIZON 2023	TECH FEST	BCREC , DURGAPUR	27-04-2023	HORIZON 2024	
2	12000122043	SAIKAT KARMAKAR	HORIZON 2023	Tech Fest	BCREC , DURGAPUR	27-04-2023	April, 2023	
3	12000122044	Ramkrishna Modak	HORIZON 2023	Tech Fest	BCREC, Durgapur	27-04-2023	April, 2023	
4	12000122054	Prerana Basak	Horizon - 2023	TechFest	BCREC, DURGAPUR	27-04-2023	HORIZON 2024	
5	12000122060	Titiksha Dalal	HORIZON 2023	TECH FEST	BCREC , DURGAPUR	27-04-2023	HORIZON 2024	
6	12000122003	SAYAN KUMAR DHAR	Horizon-2023	TechFest	BCREC, Durgapur	04-03-2023	March, 2023	14-04-2023
7	12000122005	SHREYAK MUKHERJEE	Horizon-2023	TechFest	BCREC, Durgapur	04-03-2023	March, 2023	14-04-2023
8	12000122006	GOKUL PAL	HORIZON-2023	TECHFEST	BCREC, Durgapur	04-03-2023	March, 2023	14-04-2023
9	12000122007	SOUNAK MOITRA	Horizon-2023	TechFest	BCREC, Durgapur	04-03-2023	March, 2023	14-04-2023
10	12000122008	SUMAN CHOWDHURY	Horizon-2023	TechFest	BCREC, Durgapur	04-03-2023	March, 2023	14-04-2023
11	12000122021	RIMA GORAI	HORIZON-2023	TECH FEST	BCREC, Durgapur	04-03-2023	March, 2023	14-04-2023

12	120001220 27	MANIKA SARKAR	Horizon- 2023	Techfest	BCREC, Durgapur	04- 03- 2023	March, 2023	14-04- 2023
13	120001220 47	Meraj Hussain	Horizon- 2023	TechFest	BCREC, Durgapur	04- 03- 2023	March, 2023	14-04- 2023
14	120001220 69	Nandini Pandey	Horizon- 2023	TechFest	BCREC, Durgapur	04- 03- 2023	March, 2023	14-04- 2023
15	120001220 20	Survi Mukherjee	Horizon- 2023	TechFest	BCREC, Durgapur	18- 01- 2023	January, 2023	16-05- 2023

2.8 Steps Taken for Enhancing Industry Institute Partnerships (15)

2.8. Steps Taken for Enhancing Industry Institute Partnerships (15)

A. Industry involvement in the partial delivery of any regular courses for students (05)

Details of partial delivery of courses:

1. Cybersecurity and AI in the industry

Esteemed Guests:

Mr. Pallav Rahotgi – Director, Zedroit

Mr. Jaydeep Chakraborty – TCS

Mr. Anutosh Ghosh – Founder & Director, GroArche Learning Solutions

Mr. Pratik Kumar Singh – VP, Volunteering, PMI West Bengal Chapter

Date: 28th February 2025

Time: 10:00 AM – 12:30 PM

Venue: Albert Einstein Seminar Hall, Dr. B. C. Roy Engineering College, Durgapur.

2. AI Agents & Web3 Opportunities

Esteemed Guests:

Mr. Anirban Roy - Grow Global Strategies Pvt Ltd

Date: 24th February 2025

Time: 10:00 AM – 1:30 PM

Venue: Albert Einstein Seminar Hall, Dr. B. C. Roy Engineering College, Durgapur.

3. 3D Printing Additive Manufacturing Technology

C-DAC, Kolkata

Date: 7th May 2025

Time: 10:30 AM – 1:00 PM

Venue: Albert Einstein Seminar Hall, Dr. B. C. Roy Engineering College, Durgapur.

4. Cybersecurity Awareness

Date: 26th May 2025

Time: 3:00 PM – 5:00 PM

Venue: Albert Einstein Seminar Hall, Dr. B. C. Roy Engineering College, Durgapur.

5. Explore IoT Through Hands-On Learning and Expert Talks.

Event Date: 16th of May, 2025

Guest Speaker: Dr. SujoySaha

Associate Professor, Dept of Computer Science and Engineering

NIT, Durgapur.

6. AI and Its Future

Event Date: 16th July, 2025.

Guest Speakers:

Prof. SheliSinhaChaudhuri

Professor, Dept of ETCE

Jadavpur University

SMIEEE, MIEI,

Prof. DebjaniMitra

Professor, Dept of Electronics Engineering,

IIT(ISM) Dhanbad.

Prof Nandini Mukherjee

Professor, Dept of Computer Science & Engineering

Jadavpur University

Kolkata.

Dr. RanjiniMenon

Scientific officer 'F'

Department of Atomic Energy, VECC, Kolkata

Dr. ManjiraSinha

Senior Scientist

TCS Research & Innovation, Kolkata.

7. Sustainable Development Goal

Event Date: 17th December, 2025

Guest Speaker:

Prof. SheliSinhaChaudhuri

Professor, Dept of ETCE

Jadavpur University

SMIEEE, MIEI

B. Industry offered courses/training (04)

Industry offered short-term programs/training etc.

Microsoft Azure Cloud Fundamentals (AZ-900) Training:

Date: November 16, 2024

To,
The principal,
Dr. B.C Roy Engineering College, Durgapur

Subject: Approval for Azure Cloud Fundamentals (AZ-900) Training and Certification Exam

Respected Sir,

In partnership with AEM Technologies, the Department of Computer Science and Engineering would like to offer a discounted Azure Fundamentals (AZ-900) training and certification exam. The goal of this initiative is to improve our students' fundamental understanding of cloud computing concepts and Microsoft Azure services, thereby preparing them for cloud-based roles in enterprises. We are considering students starting in January 2025 for the forthcoming fifth semester; depending on feedback analysis, this may be extended batch-wise.

The course's summary given below, for details see the attachment.

Training Details:

- **Course Title:** Microsoft Azure Fundamentals (AZ-900)
- **Duration:** 6 days of intensive training (3 hours per day)
- **Mode:** Online/On-site (customizable as per preference)
- **Instructor:** Certified Azure Trainer with industry experience
- **Participants:** 50 Candidates
- **Course Content:**
 - Core Azure services and solutions
 - Azure pricing, SLAs, and lifecycles
 - Security, privacy, compliance, and trust in Azure
 - Introduction to cloud concepts, Azure architecture, and resource management
 - Cost management, governance, and monitoring

Training Highlights:

Hands-On Labs: Access to practical Azure labs for real-time skill development.
Study Materials: Microsoft study guides and resources.

- **Mock Exams:** Practice tests to assess readiness for certification.
- **Post-Training Support:** Doubt-clearing sessions and revision.

Certification Exam:

After the training, participants will appear for the **AZ-900 Certification Exam**. This will validate their skills and knowledge, equipping them to pursue more advanced Azure certifications or cloud-related projects.

Fig. 2.8.1: Approval of Microsoft Azure Cloud Fundamentals (AZ-900) Training

Pricing:

They are offering a special **discounted package** for this training and certification exam:

- **Standard Training Fees:** Rs.3000/-+18%GST
- **Standard Exam Fees:** Rs.3696/-+18%GST [<https://learn.microsoft.com/en-us/credentials/certifications/azure-fundamentals/?practice-assessment-type=certification>]
- **Discounted Price** for Training & Exam Combo: Rs.2500/-+18%GST per candidate [Considering a total of 150 candidates]
- **Inclusions:**
 - Complete AZ-900 training
 - Official certification exam fee
 - Course materials and access to Azure labs
 - Post-training support

Tentative Schedule:

Date	Topics
08.01.2025	Core Azure services and solutions
15.01.2025	Azure pricing, SLAs, and lifecycles
22.01.2025	Security, privacy, compliance, and trust in Azure
29.01.2025	Introduction to cloud concepts, Azure architecture, and resource management
05.02.2025	Cost management, governance, and monitoring
12.02.2025	Hands-On Labs

The necessary fee collection and payments will be managed through the college.
We gladly await your insightful counsel and approval for the course mentioned above.

[Signature]
Prof. Amitabha Mondal, Prof. Zahir Hasan
Training Coordinators, Dept. of CSE, BCREC

[Signature]
Dr. Arindam Ghosh, HOD, CSE

[Signature]
Dr. Sanjay S Pawar
Principal, BCREC

Recommended
[Signature]
16/06/2024

Fig. 2.8.2: Topics of Microsoft Azure Cloud Fundamentals (AZ-900) Training

AZ-900 Microsoft Azure Fundamentals Certification Examination

Dear All,

This is to inform you that the Microsoft AZ-900 Certification Examination will be held on **23rd April 2025**, as per the schedule shared below.

Kindly note that **no requests for rescheduling** will be entertained under any circumstances. All concerned are advised to make necessary arrangements to appear for the exam as scheduled.

Group. No	Examination Time
Group-1	12:00 pm- 1:00 pm
Group-2	1:30 pm-2:30 pm
Group-3	2:45 pm- 3:45 pm
Group-4	4:00 pm-5:00 pm

Group Details

Group No.	University Roll No	Name	Current Sem	Email id
Group 1	12000122118	Biswarup Datta	6th	dattabiswarup24@gmail.com
	12000122124	SONAI KESH	6th	sonaikesh3@gmail.com
	12000122108	Aindrila Roy	6th	aindrilaroy027@gmail.com
	12000122109	Ishika Panja	6th	ishikapanja179@gmail.com
	12000122105	Anish Konar	6th	konaranish93@gmail.com
	12000122106	Suman Akhuli	6th	sumanakhuli15@gmail.com
	12000122101	Saptarshi Maji	6th	saptarshimaji13@gmail.com
	12000122102	Somesh Mondal	6th	someshmondal30@gmail.com
	12000122094	VISHWAJEET SINGH MANHAS	6th	vishur634@gmail.com
	12000122097	RAHUL KUSHWAHA	6th	rahulberecian@gmail.com
	12000122063	ADITYA PRATAAP SINGH	6th	adityapratapsingh871@gmail.com
Group 2	12000122041	Akash Ghosh	6th	akashghosh.con@gmail.com
	12000122082	Kumar Hrishav	6th	kumarhrishabh2002@gmail.com
	12000122117	Pamela Majumdar	6th	pamelamajumder2003@gmail.com
	12000122110	Debleena Maity	6th	maitydebleena01@gmail.com

Fig. 2.8.3: List of students for Microsoft Azure Cloud Fundamentals (AZ-900) Training

	12000122062	Swati Dubey	6th	vinaydubey2052@gmail.com
	12000122079	Debnath Das	6th	debnathdas504@gmail.com
	12000122107	Trishna Bhattacharjee	6th	bhattacharjeetrishn7@gmail.com
	12000122104	Disha Bhattacharya	6th	disha.b.2004@gmail.com
	12000121080	Ankita Bandyopadhyay	8th	bandyopadhyayankita7@gmail.com
	12000122136	DEBRIK CHAKRABORTY	8th	debrikchakraborty200@gmail.com
	12000122140	SOUVIK CHOWDHURY	8th	souvikchow2000@gmail.com
Group 3	12000122003	SAYAN KUMAR DHAR	6th	rickiddas1234@gmail.com
	12000122007	Sounak Moitra	6th	sounakmoitra20042@gmail.com
	12000122005	SHREYAK MUKHERJEE	6th	shreyakmukherjeeedgp@gmail.com
	12000122008	SUMAN CHOWDHURY	6th	chowdhurysuman2004@gmail.com
	12000122034	Arpan Seth	6th	arpanseth04@gmail.com
	12000122001	Aneek Maity	6th	aneekmaity912@gmail.com
	12000122025	UPASANA GHOSH	6th	upasanaghosh9151h@gmail.com
	12000122020	Survi Mukherjee	6th	survi.mukherjee09@gmail.com
	12000122019	Rajeshwari Das	6th	rajeshwaridas78@gmail.com
	12000122017	Suraj Kanti Singha	6th	nitaisingha680@gmail.com
	12000122060	Titiksha Dalal	6th	titikshadalal@gmail.com
	12000122006	GOKUL PAL	6th	gokulpal389@gmail.com
Group 4	12000122021	RIMA GORAI	6th	mistigorai2019@gmail.com
	12000122032	SNEHA CHAND	6th	snehachand2020@gmail.com
	12000122013	RIJIT CHATTERJEE	6th	rijitchatterjee99@gmail.com
	12000122035	Souvik goswami	6th	souvik03.goswami@gmail.com
	12000122061	Sohang Bhattacharjee	6th	sohangbhattacharjee@gmail.com
	12000122009	Rakesh Raushan	6th	rakeshraushan403.123@gmail.com
	12000122015	GAYANDIP LAYEK	6th	layekgayandip@gmail.com
	12000122055	Sumana Chowdhury	6th	sumanachowdhury621@gmail.com
	12000122058	RAHUL KARMAKAR	6th	karmakarrahul20000@gmail.com
	12000122071	Suraj Kumar	6th	surajkumar121112@gmail.com
	12000122075	Ankit Kar	6th	ankitkar018@gmail.com

Program Coordinators

HOD, CSE, BCREC

Fig. 2.8.3: List of student completed Microsoft Azure Cloud Fundamentals (AZ-900) Training

Central Tool Room and Training Centre (CTTC), Bhubaneswar, a Govt. of India Society under the Ministry of MSME:



Dr. B. C. Roy Engineering College, Durgapur Training & Placement Cell (Campus)

Jemua Road, Fuljhore, Durgapur - 713206

An Autonomous Institute

Affiliated to MAKAUT, Approved by AICTE, Accredited with 'B+' Grade by NAAC

Ref. No: BCREC/2024-25/T&P/016

Date - 16.12.2025

NOTICE

This is to inform you that the College Training & Placement Cell, Career Counselling Cell, and the Department of Computer Applications are jointly organizing a 50-hour Career Development Course on Artificial Intelligence & Machine Learning (AI & ML), Data Analytics, PLC and Cloud Computing.

The course will be conducted in collaboration with the Central Tool Room & Training Centre (CTTC), Bhubaneswar, a Government of India Society under the Ministry of MSME.

Classes will be conducted during **15th January 2026 till 12th February 2026** at department labs. Students need to attend these classes regularly to make them employable and enable them for Certifications. Students are encouraged to carry their Laptop and other necessary items with them to attend the classes.

Highlights of the program include:

- No registration fees and Trainings fees applicable for all registered students
- Hands-on training and practical exposure
- Industry-relevant content to bridge the gap between academics and employability
- Certification upon successful completion

Pradipta Pal

Pradipta Pal

Assistant Professor Computer Applications, In-charge, Training & Placement Cell (Campus)

In-Charge

T & P (Campus)

Dr. B. C. Roy Engineering College
Durgapur

Endorsed by:

Dr. Sanjay S Pawar

Principal,

Dr. B. C. Roy Engineering College Durgapur

Principal

Dr. B. C. Roy Engineering College
DURGAPUR



Fig. 2.8.4: Notice and Topics of Central Tool Room and Training Centre Training



Dr. B. C. Roy Engineering College Durgapur
(An Autonomous Institution)

Training & Placement Cell & Career Counselling Cell

In association with



Central Tool Room & Training Centre
MSME TECHNOLOGY CENTRE, BHUBANESWAR
AS 9100, ISO 9001, 14001, 50001 & OHSAS 18001 Certified
A Govt. of India Society, Ministry of Micro, Small and Medium Enterprises



will conduct a one-month, Entrepreneurship Skill Development Training program at Dr. B. C. Roy Engineering College, Durgapur Campus, from January 15, 2026, to February 14, 2026 (in all Monday to Saturday, except National Holidays).

Course	First Half - 10.00AM till 12.30 PM	Second Half - 02.30 PM - 05.00PM	Contact Person
Artificial Intelligence & Machine Learning (AIML)	MCA 2027 batch Venue : MCA department lab		Dr. Pabitra Kumar Dey +91 86378 84323 Monalisha Kar +91 81456 10892
		CSE+IT+CSD+AIML+DS 2026, 2027 batch Venue : AJC BOSE BHAWAN Lab-II	Samrat Samanta +91 96791 17915 Ayan Singha +91 79080 21645
Data Analytics		CSE+IT+CSD+AIML+DS 2026, 2027 batch Venue - CSD Dept. lab	Prof. Anusruti Mitra +91 89185 18307
PLC	Electrical Engineering 2027 batch Venue : CSE LAB-1	Electrical Engineering 2027 batch Venue : CSE LAB-6	Dr. Tusnik Sarkar +91 97348 10928 Prof. Moudas Mahapatra +91 75840 05091
Embedded system	ECE 2027 batch Venue : Adv Robotics Lab R-026		Dr. Mrinmoy Chakraborty +91 89674 24013
VLSI		ECE 2027 batch Venue : VLSI Design Lab R-024 Time : 03.00 PM - 05.30 PM	Prof. Pradipta Sarkar +91 95932 19722
Cloud Computing	IT 2026, 2027 batch Venue : IT Dept Lab	CSE, IT, MCA 2026, 2027 batch Venue : IT Dept Lab	Dr. Dinesh Pradhan +91 79083 02320

Overall Training Coordination, Attendance, MIS reporting, Photographs
Suman Das Contact Number : +91 97323 81823



[Signature]
In-Charge
T & P (Campus)
Dr. B. C. Roy Engineering College
Durgapur

Fig. 2.8.5: Schedule of Central Tool Room and Training Centre Training

ISOAH Data Securities Pvt. Ltd.: The Department/Institution has signed MOU with ISOAH Data Securities Pvt. Ltd, to create facilities in the laboratory for skillin Regular courses are conducted through a series of lectures and practical session along with certifications.

DR. B. C. ROY ENGINEERING COLLEGE, DURGAPUR

No. BCR/PR/2023/02

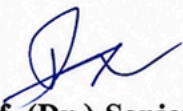
Date: 24th March, 2023**NOTICE**

It has already been notified that a MoU has been signed between Dr. B. C. Roy Engineering College, Durgapur and the Indian School of Anti Hacking (ISOAH), for offering our students a certification add-on course on Cyber Security and Ethical Hacking. An introductory session has already been arranged from ISOAH for our students. The registration process has also started and a handful of students have already got registered.

In the above context, it is to notify all of you that add- on class session for the same has been decided to be scheduled on **Wednesday from 2:00 pm to 5:00 pm** at Lab-6 of Computer Science and Engineering Department and will be continued accordingly. The first class has already been conducted on 22.03.2023 (Wednesday) by the faculty members of ISOAH at Lab 6 (CSE department).

Prof. Sabbir Reza Tarafdar and Dr. Sayantan Dutta will act as SPOC (Coordinator) and Co-coordinator for the program respectively.

All the faculty members are requested to motivate our students to take participate in the said course for their academic development.



Prof. (Dr.) Sanjay S. Pawar
Principal,
Dr. B. C. Roy Engineering College, Durgapur
Principal
Dr. B. C. Roy Engineering College
DURGAPUR

Fig. 2.8.6: Notice and Topics of ISOAH Data Securities Pvt. Ltd Training 2023

Dr. B.C. Roy Engineering College, Durgapur
Attendance of Add-On Course

Name of Course Coordinators: Prof. Sabbir Reza Tarafdar

Name of Course Co-coordinators: Dr. Sayantan Dutta

Name of the Add-On Course: Industrial Training on Cyber Security and Ethical Hacking (Network Penetration Testing)

Course conducted by: Indian School of Ani-Hacking (ISOAH)

Date: 22.03.2023

Lecture No: 01

Academic Year: 2022-23

Sl.	Name	University Roll No.	Year of Study	Signature
1	Megha Kesh	12000120115	3rd	Megha Kesh
2	Sneha Lahiri	12000120117	3rd	Sneha Lahiri
3	Anindita Das	12000120077	3rd	Anindita Das
4	Rupsa Mandal	12000120120	3rd	Rupsa Mandal
5	Aditi Kumari	12000120064	3rd	Aditi Kumari
6	Souvik Chowdhury	12000122140	2nd	Souvik Chowdhury
7	Mukulika Chatterjee	12000122134	2nd	Mukulika Chatterjee
8	Debrik Chakraborty	12000122136	2nd	Debrik Chakraborty
9	Choudhury Kaizar Aktar	12000121101	2nd	Choudhury Kaizar Aktar
10	Eshita Upadhyay	12000122131	2nd	Eshita Upadhyay
11	Sunetra Roy	12000121129	2nd	Sunetra Roy
12	Dikshita Bose	12000121100	2nd	Dikshita Bose
13	Raghib Imam	12000121090	2nd	Raghib Imam
14	Atif Jawed	12000121087	2nd	Atif Jawed
15	Aditi Chatterjee	12000121123	2nd	Aditi Chatterjee
16	Anup Das	12000121142	2nd	Anup Das
17	Jhuma Roy	12000122135	2nd	Jhuma Roy
18	Priyajit Dutta	12000121126	2nd	Priyajit Dutta
19	Jaydip Dutta	12000121094	2nd	Jaydip Dutta
20	Kaustav Dey	12000121121	2nd	Kaustav Dey
21	Debarun Das	12000121078	2nd	Debarun Das
22	Ankush Ghosh	12000121143	2nd	Ankush Ghosh
23	Indrajit Khan	12000121086	2nd	Indrajit Khan
24	Rajshree Singh	12000121119	2nd	Rajshree Singh
25	Bishnu Mukherjee	12000121075	2nd	Bishnu Mukherjee
26	Shyam Singh	12030621027	2nd	Shyam Singh
27	Subhajit Mondal	12000122068	1st	Subhajit Mondal
28	Rakesh Raushan	12000122009	1st	Rakesh Raushan
29	Abhiraj Dutta	12001622036	1st	Abhiraj Dutta
30	Madhav Raj	12030522033	1st	Madhav Raj

Page 1 of 2



Fig. 2.8.7: List of student completed ISOAH Data Securities Pvt. Ltd Training 2023

Dr. B. C. Roy Engineering College, Durgapur

Ref.: BCREC/ISOEH/MOM/2023

Date: 30.11.2023

Following are the minutes of the meeting held on 29th November, 2023 with ISOEH officials in the presence of Principal, Vice Principal and HoD, dept. of CSE, SOPC of co-coordinator for BCREC and the subsequent meeting held on for the same agenda with HoD dept. of CSD, HoD dept. of IT and HoD, dept. of AIML:

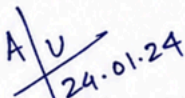
1. ISOEH courses will be offered to the students as mandatory add on course for the department of CSE, IT, CSD and AIML.
2. Every week 2 Nos. of classes will be organized; each class will contain 4 hours of lecture.
3. As it is going on, 2nd half of Wednesday every week 4 hours class will be organized through offline/physical mode. A suitable time slot will be found out on Saturday to organize 4 hours class through online mode.
4. For any unavoidable circumstances, if any class misses that class will be adjusted by the same week through online mode.
5. One batch should be completed by one and a half month including certification exam. Next batch will be started from January, 2024.
6. Absentees from the previous batch will be counselled and motivated to attend the certification exam.
7. Office order corresponding this modification need to be published form the appropriate office end.



Prof. Sabbir Reza Tarafdar
Cordinator, ISOEH Program,



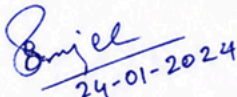
Prof. (Dr.) Sayantan Dutta, Ph. D.
Co-coordinator, ISOEH Program,



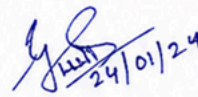
Prof. ((Dr.) Arindam Ghosh, Ph. D.
HoD, Dept. of CSE



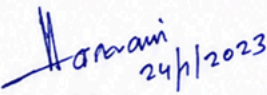
Prof. (Dr.) Rajkumar Samata, Ph.D.,
HoD, Dept. of CSD



Prof. (Dr.) Suman Bhattacharjee,
HoD, Dept. of IT



Prof. (Dr.) Gout Sundar Mitra Thakur,
HoD, Dept of AIM



Prof. (Dr.) K. M. Hossain,
Vice – Principal



Prof. (Dr.) Sanjay S. Pawar
Principal

Fig. 2.8.8: Minutes of Meeting for ISOAH Data Securities Pvt. Ltd Training 2023

Dr. B. C. Roy Engineering College, Durgapur

Date: 14.03.2024

NOTICE

This is to notify to all concern that, as per the minutes of the meeting held on 29th November, 2023 with ISOEH officials in presence of Principal, Vice Principal and HoD, dept. of CSE, SOPC of Co-coordinator for BCREC and the subsequent meeting held on the same day for the same agenda with HoD dept. of CSD, HoD dept. of IT and HoD, dept. of AIML, the courses offered by **Indian School of Ethical Hacking (ISOEH)** will be offered to the students as **mandatory add on course** for the **department of CSE, IT, CSD and AIML**. **Weekly 8 hours classes on Wednesday and Saturday** will be offered to the students of the afore-mentioned departments, thus **each course requires 6 weeks including the certification examination**. **Students from any other departments may also join the courses** accordingly. Concerned SPOC and coordinators are instructed to take immediate action to start the classes. Concerned faculty/staff members are requested for the cooperation to be made for the smooth operation of the program.


Prof. (Dr.) Sanjay S. Pawar
Principal
Principal

Dr. B. C. Roy Engineering College
DURGAPUR

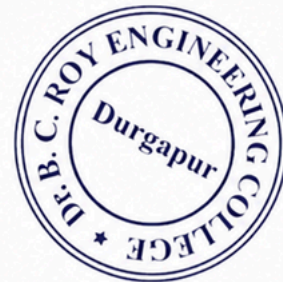


Fig. 2.8.9: Notice and Topics of ISOAH Data Securities Pvt. Ltd Training 2024

DR. B. C. ROY ENGINEERING COLLEGE, DURGAPUR

Attendance Sheet of Add-on Course

Name of Course Coordinator: Prof. Sabbir Reza Tarafdar

Name of Course Co-Coordinator: Prof Sayantan Dutta, Ph. D.

Name of the Add-on Course: Industrial Training on Ethical Hacking (Module 2)

Course Conducted by: **Indian School of Anti - Hacking (ISOAH)**

Date: 27/03/2024

Lecture Number: 01

Academic Year: 2023-24

Sl. No.	Name of the student	Department/Branch	University Roll No.	Year of study	Signature
1	Varad Pawar	Computer Science and Engineering	12000122125	2nd	Varad Pawar
2	DEBRIK CHAKRABORTY	Computer Science and Engineering	12000122136	3rd	Debrik Chakraborty
3	MADHAV RAJ	CSE(DATA SCIENCE)	12030522033	2nd	
4	Mukulika Chatterjee	Computer Science and Engineering	12000122134	3rd	Mukulika Chatterjee.
5	Rakesh Raushan	Computer Science and Engineering	12000122009	2nd	
6	Chandrajit Banerjee	CSD	12031522061	2nd	
7	Anjali Ghosh	CSD	12031522054	2nd	
8	AFZAL GANI	ECE	12000322026	2nd	
9	Sumit Kumar Sharma	Information Technology	12000322028	2nd	
10	Deepak Kumar	ECE	12000322087	2nd	
11	ATINDRA NATH MUKHERJEE	ECE	12000322059	2nd	
12	NILAY BANERJEE	CSE(DATA SCIENCE)	12030522047	2nd	

NAFISH ALAM / *[Signature]* 27/03/2024

Name of the Facilitator with Signature and Date

Fig. 2.8.7: List of student completed ISOAH Data Securities Pvt. Ltd Training 2024

C. Industry-supported laboratories (03)

RedHat Academy Supported Lab

I. Title of the Event: One-day workshop on Linux Administration and Automation with AI

II. Program Theme: Exploring modern Linux administration and automation practices enhanced by AI-driven tools through hands-on learning. Empowering students and real-world system management.

III. Date & Time: 11.12.2025 from 11:00 am to 4:30 pm

IV. Event Coordinators: Prof. Amitabha Mandal and Prof. Syed Zahir Hasan

V. Number of Student Participants: 111 (3 rd semester CSE students)

VI. Mode of Session delivery: Offline

VII. Speaker details:

Mr Tuhin Sinha, Corporate Trainer for Red Hat Enterprise Linux, Clustering and Storage, OpenShift, OpenStack, AWS, GCP, Ansible, Docker, Kubernetes, DevOps, RedHat and JBOSS Certified Instructor. Strong entrepreneurship professional with real-life experience. He is a Red Hat Certified Architect. He is the founder and CEO of AEM Technologies.

Mr Apratim Guha, Sr. Technical Trainer and Exam Controller of AEM Technology

RedHat Academy Supported Lab

I. Title of the Event: One-day workshop on Managing Azure Cloud with DevOps Technologies

II. Program Theme: Exploring Azure Cloud with DevOps Technologies through hands-on learning. Empowering students with practical skills aligned to current industry trends.

III. Date & Time: 14.01.2026 from 11:00 am to 4:30 pm

IV. Event Coordinators: Prof. Amitabha Mandal and Prof. Syed Zahir Hasan

V. Number of Student Participants: 67 (3 rd semester CSE students)

VI. Mode of Session delivery: Offline

VII. Speaker details:

Mr Tuhin Sinha, Corporate Trainer for Red Hat Enterprise Linux, Clustering and Storage, OpenShift, OpenStack, AWS, GCP, Ansible, Docker, Kubernetes, DevOps, RedHat and JBOSS Certified Instructor. Strong entrepreneurship professional with real-life experience. He is a Red Hat Certified Architect. He is the founder and CEO of AEM Technologies.

Mr Apratim Guha, Sr. Technical Trainer and Exam Controller of AEM Technology

D. Impact analysis and actions taken thereof (03)

To strengthen interaction with industries and to keep the students updated with the recent trends in cutting edge technologies, the Department/Institution has initiated help students to acquire the practical knowledge and real time industrial exposure.

Table 2.8.1: Memorandum of Understanding (MoU) between BCREC and Other parties

Number of functional MoUs with institutions, other universities, industries, corporate houses etc. during the year				
Sl. No.	Organisation with which MoU is signed	Name of the institution/ industry/ corporate house	Year of signing MoU	List the actual activities under each MOU year wise
1	National Highways Authority of India	National Highways Authority of India	2020	1. Student Internship 2. Site Visit

2	The Mission Hospital, Durgapur	Durgapur Medical Centre Pvt. Ltd.	2019	1. Doctors visit in BCREC 2. In emergency patient should be transferred to Mission Hospital
3	Ardent Computech Pvt. Ltd.	SDF Building, Sector - V, Salt Lake, Kolkata - 91	2019	Workshop & Webinar Conducted Internship
4	Texas Instruments, India	M/s Ed Gate Technologies Pvt. Limited	2015 (Renewed on 2021)	Model Preparation and presentation with the help of this lab.
5	Capgemini Technology Services India Ltd.	Plot No- 14, Rajiv Gandhi Infotech Park, Pune- 411057, Maharashtra	2022	Industrial and Academic Collaboration and Interaction Pre Joining learning opportunity, Conducting Workshop, Internship
6	VITTI Research Foundation	8/3 2nd Floor Abdul Aziz Road, Karol Bagh Delhi- 110005	2022	BCREC AIEFT Innovation Hub (BAIET)
7	CSIR-CMERI	Annusandhan Bhawan, New Delhi - 110001	2021	Hands on Skill Promotion, Research
8	DCG-Data Core System India Pvt. Ltd.	DG Block, Sector-II, Plot-4, Salt Lake City, Kolkata-91	2023	Training & Research Activities, Industry Resource Person for BCREC, Etc.
9	Cambridge University Press & Assessment India Pvt. Ltd.	3rd Floor, Splendor Forum, Plot No. 3, Jasola District Centre, New Delhi-110025	2023	English Language Assessment tools, Train the trainer
10	ISOAH Data Securities Pvt. Ltd.	SDF Building, Sector - V, Salt Lake, Kolkata - 91	2023	Value added course, Internship, Placement of Trained Students
11	SAIL, DSP	Durgapur Steel Plant, Durgapur - 713203	2024	Industrial and Academic Collaboration to facilitate Interaction, Innovation, Research, Application, Training and Consultancy

12	Infosys Limited	Plot No: 44 & 97A Electronics City, Hosur Road, Bangalore - 560100	2023	Industrial and Academic Collaboration to facilitate Training and Consultancy
13	AEM Technologies	Tarapukur Main Road, Agarpara, Kolkata-700109	2024	1. Design and structure of curricula for certificate courses on Linux Administration, end – to end training in on line and offline mode on cloud computing, Devops, Networking, Soft Skill and Personality Development. 2. Provide Course materials and Resource Persons for the courses designed by AEM 3. Provide course material for the courses designed by AEM 4. Extend material and design/content support for digital marketing materials of the courses.
14	Red Hat Academy	Red Hat Academy Learning Platform	2023	1. “Train the trainers on line programme” commenced 15-01-2024 onwards and shall end First week of March, 2024 2. Trained Faculty shall thereafter conduct / assist student trainings at the College site.

15	ENTUPLE Technologies	ENTUPLE Technologies, Bangalore	2022	1. Low Power VLSI Chip design for Consumer Electronics Product(s) 2. Student and Faculty Development through ON-line/ Offline training in VLSI 3. Internship (on line/Off line) in VLSI 4. Necessary support of Govt 5. R & D projects as an industry partner in VLSI technologies.
16	M/s Core EL Technologies,	M/s Core EL Technologies, Bangalore	2022 (Extension)	1. Opportunity to engage with the Industry and to assess the needs of the Industry to update syllabus 2. Upgradation of infrastructure in Information related topics 3. Collaboration with Industry for research related projects and programmes and student internships 4. Faculty development programmes and advanced training to students 5. Conduct joint Technical Seminars and Workshops 6. Provide on – site training to BCREC Staff and Faculty at the Training Division of Core EL, Bangalore.

17	IC Design and Fabrication Centre, Department of Electronics & Tele-communication Engineering, Jadavpur University, Kolkata	IC Design and Fabrication Centre, Department of Electronics & Tele-communication Engineering, Jadavpur University, Kolkata	2024	1. The Centre will train the students of the department in the domain of VLSI Design & Microelectronics Technology Embedded Systems and IOT& for a duration of 100 hours (approximately) per session probably in the inter semester gap. 2. Faculty Development Program 3. Visit and formal exchange of students, scholars and faculty
18	Celebel Technologies Private Limited	Celebel Technologies Private Limited, Jaipur Rajasthan	2024	Industry Tie-up Celebel Technologies Academic Program Training and Learning Program
19	India Metrological Department	Ministry of Earth Sciences (MoES), Regional Meteorological Centre Kolkata	2024	Hands on Skill Development, Research, Training etc
20	Indian Institute of Social Welfare and Business Management, Kolkata (IISWBM)	Indian Institute of Social Welfare and Business Management, Kolkata (IISWBM)	2024	Management Education, MDP, Symposia, Short Term course, Research
21	UltraTech Cement Limited	UltraTech Cement Limited Abanindra Nath Thakur Sarani (Camac Street) Kolkata-16	2025	Skilled Development Program, Seminars, Workshops Industrial visit research

3 OUTCOME-BASED ASSESSMENT (120)

3.1 Evaluation of Continuous Assessment: Assignments, Unit Tests, Mid-Term, etc. (10)

Criterion 3: Outcome Based Assessment (120)

3.1 Evaluation of Continuous Assessment (10)

(Describe the process of evaluation followed during continuous assessment to maintain quality of assessment; constructive alignment of questions with COs and for evaluation.)

3.1.1 Continuous Assessment Process

The Department of Computer Science and Engineering at Dr. B. C. Roy Engineering College follows a structured Continuous Internal Evaluation (CIE) process in an examination system prescribed by Maulana Abul Kalam Azad University of Technology (MAKAUT), West Bengal. Since the institute is affiliated to MAKAUT and the curriculum structure, assessment scheme, and semester-end examination process are governed by the affiliating university.

The Continuous Assessment process is designed to:

- Evaluate student learning continuously throughout the semester,
- Ensure attainment of Course Outcomes (COs),
- Establish constructive alignment among COs, POs and PSOs,
- Monitor academic progress of students, and
- Support continuous quality improvement in teaching-learning practices.

The department follows both direct and indirect assessment mechanisms. However, Course Outcome attainment is primarily measured using direct assessment tools.

The assessment process is monitored by:

- Course Coordinator,
- Department Academic Committee (DAC),

The direct assessment process includes:

- Continuous Assessments (CA1, CA2, CA3 and CA4),
- Practical Continuous Assessments (PCA1 and PCA2),
- Assignments,
- Quizzes,
- Tutorials,
- Viva-Voce,
- Coding exercises,
- Laboratory experiments,
- Seminar presentations,
- Mini-projects,
- Technical report writing, and
- Semester End Examinations (SEE).

3.1.1(a) Theory Course Continuous Assessment Process

For theory courses, the assessment process consists of:

- Four Continuous Assessments (CA1, CA2, CA3 and CA4), and
- Semester End Examination (SEE).

The assessment structure prescribed by MAKAUT is shown below.

Table 3.1.1(a): Theory Course Assessment Structure

Assessment Component	Conducting Authority	Marks **
CA1	Department	25
CA2	Department	25
CA3	Department	25
CA4 (Online MCQ Based)	MAKAUT University	25
Semester End Examination (SEE)	MAKAUT University	70

**5 marks awarded based on the attendance

Note: Additional attendance marks are awarded as per university regulations.

The internal continuous assessments (CA1, CA2 and CA3) are conducted by the department during the semester through suited for individual courses:

- class tests,
- assignments,
- tutorials,
- quizzes,
- coding exercises,
- viva-voce,
- presentations, and
- report writing.

The CA4 examination is conducted centrally by MAKAUT in online MCQ mode.

The Semester End Examination (SEE) question papers are prepared, moderated, and evaluated by MAKAUT University.

3.1.1(b) Practical Course Assessment Process

For laboratory/practical courses, all assessments are conducted internally by the department following university guidelines.

Practical assessment process consists of:

- Practical Continuous Assessment-1 (PCA1),
- Practical Continuous Assessment-2 (PCA2), and
- End Semester Practical Examination.

Table 3.1.1(b): Practical Course Assessment Structure

Assessment Component	Conducting Authority	Marks
PCA1	Department	40
PCA2	Department	40
End Semester Practical Examination	Department/Internal-External Examiners	60

The practical evaluation process includes:

- Experiment execution,
- Coding/implementation,
- Observation and analysis,
- Laboratory notebook evaluation,
- Viva-voce, and
- Mini-project/demo wherever applicable.

Laboratory manuals are prepared in alignment with the syllabus prescribed by MAKAUT and are made available to students before commencement of the laboratory sessions.

3.1.2 Continuous Assessment Process Flow

Course Allocation



Preparation of Course File



Definition/correction (if required) of COs and CO-PO/PSO Mapping



Preparation of Lesson Plan and Assessment Plan



Preparation of Question Papers and Assignments



Question Paper Moderation



Conduct of Continuous Assessments



Evaluation using Rubrics and Scheme



CO-wise Attainment Calculation



Corrective Actions and Remedial Measures

3.1.3 Quality Assurance Practices in Continuous Assessment

Table 3.1.3(a): Quality Assurance Practices

Sl. No	Quality Practice	Description
1	CO-based Assessment	Questions mapped with Course Outcomes
2	Bloom's Taxonomy Mapping	Questions framed at different cognitive levels
3	Internal Moderation	Question papers reviewed by senior faculty
4	Transparent Evaluation	Evaluated scripts discussed with students
5	Rubric-Based Assessment	Standard rubrics used for labs, projects and sessional courses
6	Continuous Monitoring	Performance monitored by DAC and HoD
7	Corrective Measures	Remedial classes for weak students

3.2 Evaluation of the Semester End Exam (SEE) Question Paper (10)

3.2 Evaluation of Semester End Examination (SEE) Question Paper (10)

The Department of Computer Science and Engineering follows the Semester End Examination (SEE) system prescribed by MAKAUT. Since the institute operates under the 1 examination pattern, question paper setting, moderation, and evaluation processes for Semester End Examinations are governed centrally by the affiliating university.

For theory courses, MAKAUT conducts:

- Semester End Examination (SEE) for 70 marks, and
- CA4 examination in online MCQ mode for 25 marks.

The department conducts CA1, CA2 and CA3 internally as part of the continuous evaluation process.

Faculty members of the department actively contribute to the university examination system as:

- question paper setters,
- moderators,
- examiners,
- subject experts, and
- members of academic committees whenever nominated by the university.

Faculty members prepare and submit question papers to the university following the syllabus structure and guidelines prescribed by MAKAUT. The university subsequently underta

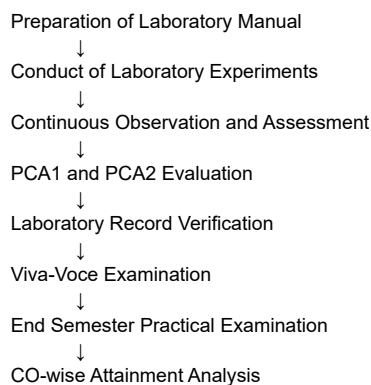
- syllabus coverage,
- appropriate difficulty level,
- uniformity in standards,
- elimination of ambiguity,
- fairness and transparency.

3.3 Evaluation of Laboratory Work and Workshop (Continuous and SEE) (10)

3.3 Evaluation of Laboratory Work and Workshop (Continuous and SEE) (10)

Laboratory courses play a significant role in providing practical exposure, analytical ability, programming skill, problem-solving capability, and hands-on learning experience to students. The department follows continuous and semester-end laboratory evaluation processes aligned with Course Outcomes, Program Outcomes, and Program Specific Outcomes.

3.3.1 Laboratory Evaluation Process



3.3.2 Laboratory Assessment Structure

Table 3.3.2(a): Laboratory Assessment Structure

Assessment Component	Conducting Authority	Marks
PCA1	Department	40
PCA2	Department	40
End Semester Practical Examination	Department/Internal-External Examiners	60

3.3.3 Rubrics Used for Laboratory Assessment

Rubric-based assessment is used for maintaining transparency, consistency, and uniformity in laboratory evaluation.

Table 3.3.3(a): Sample Laboratory Rubrics

Evaluation Parameter	Excellent (4)	Good (3)	Average (2)	Poor (1)
Understanding of Experiment	Complete understanding	Minor conceptual gaps	Partial understanding	Poor understanding
Coding/Implementation	Error free execution	Minor errors	Moderate errors	Unable to execute
Result Analysis	Excellent analysis	Moderate analysis	Limited analysis	No analysis
Viva Performance	Excellent response	Good response	Average response	Poor response
Documentation	Complete and neat	Minor omissions	Incomplete	Poor documentation

3.3.4 Laboratory Evaluation Weightage

Table 3.3.4(a): Laboratory Evaluation Components

Component	Weightage
Experiment Execution	30%
Viva-Voce	20%
Observation and Analysis	20%
Laboratory Record	20%
Attendance and Discipline	10%

3.4 Evaluation of Industrial Training/ Internship (Continuous and SEE) (10)

3.4 Evaluation of Industrial Training / Internship (Continuous Assessment and

Industrial Training / Internship is an integral component of the curriculum that provides students with opportunities to apply theoretical knowledge, engineering industrial and professional environments. The Department of Computer Science and Engineering encourages students to undertake internships in industries, government organizations, and technology-driven enterprises to bridge the gap between academic learning and professional practice.

The internship program enables students to gain practical exposure to industrial processes, software development practices, project management methodologies and emerging technologies. It also facilitates the development of problem-solving abilities and lifelong learning skills required by the computing profession.

The internship evaluation process follows the principles of Outcome Based Education (OBE) and is aligned with the Program Outcomes (POs) and Program Specific Outcomes (PSOs) carried out through continuous monitoring during the internship period and final evaluation based on deliverables, mentor feedback, report submission, presentation

3.4.1 Course Outcomes of Industrial Training / Internship

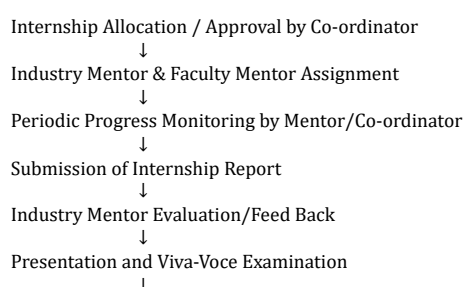
Table 3.4.1: Course Outcomes of Industrial Training / Internship

CO Code	Course Outcome	Blooms Level
CS782.1	Apply knowledge of computer science and engineering principles to solve practical problems encountered during industrial training.	L3 (Apply)
CS782.2	Utilize modern software tools, platforms, frameworks, and technologies relevant to the assigned industrial tasks.	L3 (Apply)
CS782.3	Analyze industrial practices, workflows, and technical challenges and propose suitable solutions.	L4 (Analyze)
CS782.4	Demonstrate professional ethics, discipline, teamwork, and effective interpersonal skills in a professional environment.	L3 (Apply)
CS782.5	Prepare professional technical reports and effectively communicate internship outcomes through presentations and discussions.	L5 (Evaluate)
CS782.6	Demonstrate self-learning ability and adaptability towards emerging technologies and industrial requirements.	L5 (Evaluate)

3.4.2 Internship Evaluation Process

The department follows a structured internship assessment framework to ensure systematic monitoring and objective evaluation of student learning outcomes.

Internship Assessment Flow



Rubric-Based Assessment
 ↓
 CO Attainment Calculation
 ↓
 PO/PSO Attainment Analysis
 ↓
 Continuous Improvement Actions

Faculty mentors continuously monitor student progress through periodic interactions, review meetings, and assessment of assigned tasks. Final evaluation is carried by the student during the internship period.

3.4.3 Internship Assessment Rubrics

Rubric-based assessment is adopted to ensure transparency, consistency, fairness, and objectivity in evaluating internship performance.

Table 3.4.2: Internship Assessment Rubrics

Evaluation Parameter	Weightage (%)
Technical Competency and Problem Solving	30
Application of Modern Tools and Technologies	20
Industry Mentor Feedback (Professionalism, Discipline, Teamwork)	20
Internship Report Quality	15
Presentation and Communication Skills	10
Viva-Voce	5
Total	100

3.4.4 Detailed Internship Rubric

Table 3.4.3: Performance Levels for Internship Evaluation

Criterion	Excellent (4)	Good (3)	Satisfactory (2)	Needs Improvement (1)
Technical Competency & Problem Solving	Independently solves complex technical problems with high-quality solutions	Solves assigned tasks with minor guidance	Completes routine tasks with moderate guidance	Unable to effectively solve assigned problems
Application of Modern Tools & Technologies	Efficiently utilizes modern tools, frameworks, and platforms with proper justification	Uses relevant tools effectively with minor support	Demonstrates basic tool usage	Limited ability to utilize tools and technologies
Industry Mentor Feedback	Excellent professionalism, discipline, initiative, and teamwork	Good professional conduct and teamwork	Acceptable performance with occasional deficiencies	Poor professional conduct and participation

Internship Report Quality	Comprehensive, well-structured, technically sound, and professionally written	Good quality report with minor shortcomings	Adequate report with limited analysis	Poorly organized and incomplete report
Presentation & Communication Skills	Excellent communication, confidence, clarity, and technical explanation	Good presentation with minor shortcomings	Satisfactory presentation and explanation	Ineffective communication and presentation
Viva-Voce	Demonstrates excellent understanding of work carried out and technical concepts	Good understanding of internship activities	Basic understanding of assigned work	Inadequate technical understanding

3.4.5 Mapping of Internship Assessment Parameters with COs

Table 3.4.4: Assessment Parameters versus Course Outcomes

Evaluation Parameter	CO1	CO2	CO3	CO4	CO5	CO6
Technical Competency & Problem Solving	20	-	10	-	-	-
Application of Modern Tools & Technologies	-	20	-	-	-	-
Industry Mentor Feedback	-	-	-	15	-	5
Internship Report Quality	-	-	5	-	10	-
Presentation & Communication Skills	-	-	-	-	10	-
Viva-Voce	-	-	5	-	-	-
Total Marks for CO	20	20	20	15	20	5

3.4.6 CO–PO–PSO Mapping Matrix

Table 3.4.5: CO–PO–PSO Correlation Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CS782.1	3	2	-	-	-	-	-	-	-	-	3	-	-
CS782.2	-	-	-	-	3	-	-	-	-	-	-	3	2
CS782.3	-	3	2	2	-	-	-	-	-	-	2	-	2
CS782.4	-	-	-	-	-	3	3	-	2	-	-	-	-
CS782.5	-	-	-	-	-	-	-	3	-	-	-	2	-
CS782.6	-	-	-	-	-	-	-	-	-	3	-	-	3

3.4.7 CO Attainment Methodology

Course Outcome attainment for Industrial Training / Internship is measured through direct assessment tools using rubric-based evaluation.

The attainment process involves:

1. Mapping assessment parameters with Course Outcomes.
2. Allocating marks corresponding to each CO.
3. Evaluating student performance using standardized rubrics.
4. Computing CO-wise scores for individual students.
5. Determining attainment levels based on departmental attainment targets.
6. Aggregating CO attainment values for PO and PSO attainment calculations.

3.4.9 Continuous Improvement Based on Internship Assessment

The internship assessment outcomes are reviewed by the Department Academic Committee (DAC).

Based on analysis of internship performance, the department undertakes measures such as:

- Strengthening industry interaction activities.
- Enhancing exposure to emerging technologies.
- Conducting professional communication and report writing workshops.
- Increasing opportunities for industry-sponsored internships.
- Incorporating feedback from industry mentors and employers.

The continuous review of internship outcomes contributes significantly to the enhancement of student employability, professional competency, and attainment of Pr

3.5 Evaluation of Projects (20)

3.5 Evaluation of Projects (20)

The project work is an integral component of the B.Tech. Computer Science and Engineering program and serves as a capstone experience wherein students curriculum to solve complex engineering problems. The project enables students to demonstrate their ability in problem identification, analysis, design, implement project management, ethics, sustainability, and lifelong learning.

In accordance with the curriculum prescribed by MAKAUT, project work is carried out over two semesters:

- Project-II (7th Semester) – 100 Marks
- Project-III (8th Semester) – 100 Marks

** PROJ-CS601 (Research Methodology) course treated as Project -I

The project evaluation process follows Outcome Based Education (OBE) principles and is carried out through continuous assessment using well-defined rubrics (POs), and Program Specific Outcomes (PSOs).

3.5.1 Project Evaluation Process

The overall process adopted by the Department to ensure the quality of student projects is illustrated in Fig. 3.5.1.

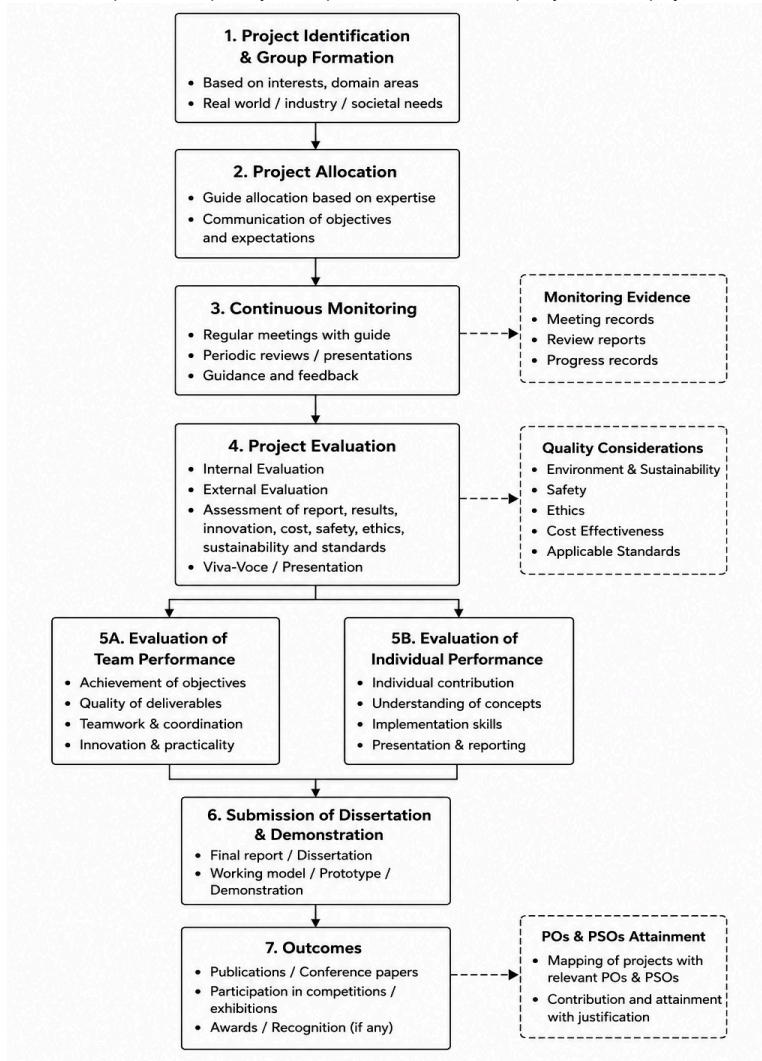
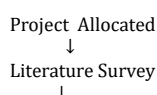


Fig. 3.5.1.: Process adopted by the Department to ensure the quality of student major projects

The project evaluation process adopted by the department is shown below.

Project-II (7th Semester) evaluation process:



Problem Definition
(Progress Review)
↓
Requirement Analysis
↓
Synopsis Presentation & Viva
(Project-II Evaluation)
↓
CO-PO-PSO Attainment Analysis
↓

Project-III (8th Semester) evaluation process:

System Design
↓
Implementation & Development
(Progress Review-1)
↓
Testing & Validation
↓
Prototype Demonstration
(Progress Review-2)
↓
Final Presentation & Viva
(Project-III Evaluation)
↓
CO-PO-PSO Attainment Analysis

The progress of each project is monitored by the Project Supervisor, Project Coordinator, Department Academic Committee (DAC), and External Expert (where applicable).

3.5.2 Evaluation of Project-II (7th Semester)

Project-II primarily focuses on problem identification, literature survey, requirement analysis, feasibility study, methodology selection, project planning, and system c

Table 3.5.1: Course Outcomes of Project-II

CO Code	Course Outcome	Blooms Level
PROJ-CS781.1	Identify and formulate a real-world computing problem through literature survey and requirement analysis.	L4 (Analyze)
PROJ-CS781.2	Analyze existing techniques and investigate alternative approaches for solving the identified problem.	L4 (Analyze)
PROJ-CS781.3	Design appropriate algorithms, architectures, models, databases, or software frameworks for the proposed solution.	L5 (Evaluate)
PROJ-CS781.4	Select appropriate modern computing tools and technologies for the proposed solution.	L3 (Apply)
PROJ-CS781.5	Prepare project plans, technical reports, and presentations demonstrating project management skills.	L3 (Apply)
PROJ-CS781.6	Demonstrate teamwork, communication skills, and professional ethics during project execution.	L3 (Apply)

Table 3.5.2: CO-PO-PSO Mapping Matrix (Project-II)

COs	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
PROJ-CS781.1	3	3	1	2	-	-	-	-	-	-	-	-	3	-	-
PROJ-CS781.2	2	3	2	3	-	-	-	-	-	-	-	-	3	1	-
PROJ-CS781.3	2	2	3	2	2	-	-	-	-	-	-	-	2	3	-

PROJ-CS781.4	-	-	1	-	3	-	-	-	-	-	-	-	-	3	1
PROJ-CS781.5	-	-	-	-	-	-	-	-	1	3	3	-	-	1	-
PROJ-CS781.6	-	-	-	-	-	1	-	3	3	3	2	1	-	-	1

Table 3.5.3: Project-II Evaluation Rubrics

Evaluation Parameter	Weightage (%)
Problem Identification & Objectives	10
Literature Survey & Requirement Analysis	20
Methodology Selection & Feasibility Study	10
System Design / Architecture	15
Tool Selection & Technical Planning	10
Project Planning & Documentation	5
Presentation, Communication Skills, Team Participation & Professional Conduct	20
Viva-Voce	10
Total	100

Detailed Rubric Levels for Project Assessment

Project-II and Project-III have different rubrics because the expected learning outcomes are different.

As mentioned before Project-II focuses on problem identification, literature survey, analysis, methodology selection, planning, and design.

Detailed Rubric for Project-II (7th Semester) :

Criterion	Excellent (4)	Good (3)	Satisfactory (2)	Needs Improvement (1)
Problem Identification & Objectives	The problem is clearly defined, relevant to real-world needs, innovative, and objectives are specific, measurable, and achievable.	The problem is well defined with clear objectives; minor gaps in scope or relevance.	Problem identified but objectives are broad or partially defined.	Problem statement unclear; objectives are poorly defined or not aligned with the problem.
Literature Survey & Requirement Analysis	Comprehensive review of recent literature; research gap clearly identified; functional and non-functional requirements thoroughly analyzed.	Adequate literature review with relevant references; requirements reasonably identified.	Limited literature review; basic requirements identified with insufficient analysis.	Inadequate literature survey; requirements poorly understood or missing.
Methodology Selection & Feasibility Study	Alternative approaches critically compared; methodology scientifically justified; technical, economic, and operational feasibility thoroughly analyzed.	Suitable methodology selected with reasonable justification; feasibility considered.	Methodology selected with limited comparison and basic feasibility analysis.	Methodology poorly justified; feasibility analysis absent or inadequate.

System Design / Architecture	Complete and technically sound architecture/design with appropriate diagrams, modular decomposition, and clear workflow.	Good system design with minor deficiencies in architecture or documentation.	Basic design developed but lacks sufficient detail or clarity.	Weak, incomplete, or inconsistent design architecture.
Tool Selection & Technical Planning	Modern tools, technologies, frameworks, and platforms selected with strong technical justification and implementation roadmap.	Appropriate tools selected with adequate justification and planning.	Limited justification for tool selection; technical planning partially developed.	Inappropriate tools selected or technical planning absent.
Project Planning & Documentation	Detailed project schedule, milestones, risk analysis, and professional documentation maintained throughout the semester.	Good planning with proper milestones and satisfactory documentation.	Basic project planning and documentation with noticeable gaps.	Poor planning; documentation incomplete or poorly organized.
Presentation, Communication Skills, Team Participation & Professional Conduct	Excellent presentation with logical flow, clarity, confidence, effective visual aids, and ability to answer questions.	Good presentation with minor communication shortcomings.	Satisfactory presentation but lacks clarity or confidence in some areas.	Poor presentation skills; unable to communicate ideas effectively.
Viva-Voce	Demonstrates comprehensive understanding of problem domain, literature, methodology, and design decisions.	Good understanding of major concepts and project components.	Basic understanding with limited ability to justify decisions.	Inadequate technical understanding and inability to answer questions satisfactorily.

Marks Obtained=(Rating/4)×Maximum Marks

Table 3.5.4: Mapping of Project-II Rubrics with COs

Evaluation Parameter	CO 1	CO 2	CO 3	CO 4	CO 5	CO 6
Problem Identification & Objectives	10	-	-	-	-	-
Literature Survey & Requirement Analysis	10	10	-	-	-	-
Methodology Selection & Feasibility Study	-	10	-	-	-	-
System Design / Architecture	-	5	10	-	-	-
Tool Selection & Technical Planning	-	-	-	10	-	-
Project Planning & Documentation	-	-	-	-	5	-
Presentation, Communication Skills, Team Participation & Professional Conduct	-	-	-	-	10	10
Viva-Voce	10	-	-	-	-	-
Total Marks for CO	30	25	10	10	15	10

Evaluation Sheet for Project II				
		Progress Review	Project-II Evaluation	

Roll No	Name	Problem Identification & Objectives (10)	Literature Survey & Requirement Analysis (20)	Methodology Selection & Feasibility Study (10)	System Design / Architecture (15)	Tool Selection & Technical Planning (10)	Project Planning & Documentation (5)	Presentation, Communication Skills, Team Participation & Professional Conduct (20)	Viva-Voce (10)	Total Marks

3.5.3 Evaluation of Project-III (8th Semester)

Project-III focuses on implementation, testing, validation, innovation, deployment, documentation, and demonstration of the complete engineering solution.

Table 3.5.5: Course Outcomes of Project-III

CO Code	Course Outcome	Blooms Level
PROJ-CS881.1	Develop and implement a computing solution using appropriate software tools, technologies, and engineering practices.	L3 (Apply)
PROJ-CS881.2	Test, validate, and evaluate the developed system using suitable performance metrics.	L5 (Evaluate)
PROJ-CS881.3	Integrate modern and emerging computing technologies to enhance system functionality and effectiveness.	L6 (Create)
PROJ-CS881.4	Develop innovative and sustainable solutions addressing societal and industrial needs.	L6 (Create)
PROJ-CS881.5	Prepare professional technical documentation and effectively communicate project outcomes.	L5 (Evaluate)
PROJ-CS881.6	Demonstrate project management, ethical responsibility, teamwork, and lifelong learning attributes.	L5 (Evaluate)

Table 3.5.6: CO–PO–PSO Mapping Matrix (Project-III)

COs	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
PROJ-CS881.1	1	1	3	-	3	-	-	-	-	-	-	-	1	3	2
PROJ-CS881.2	1	2	2	3	2	-	-	-	-	-	-	-	2	3	1
PROJ-CS881.3	1	-	2	1	3	-	-	-	-	-	-	1	1	2	3
PROJ-CS881.4	-	-	3	-	2	2	3	1	-	-	-	1	-	1	3
PROJ-CS881.5	-	-	-	-	-	-	-	-	1	3	1	-	-	-	-

PROJ-CS881.6	-	-	-	-	-	1	1	3	3	2	3	3	-	1	2
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Table 3.5.7: Project-III Evaluation Rubrics

Project-III focuses on implementation, testing, innovation, validation, sustainability, documentation, and professional practice.

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Weightage for Project-III

Criterion	Weightage (%)
Implementation & Technical Quality	25
Testing, Validation & Result Analysis	20
Innovation & Use of Modern Technologies	15
Sustainability & Societal Relevance	5
Documentation & Report Preparation	10
Demonstration, Presentation & Communication	10
Technical Understanding (Viva)	10
Teamwork, Project Management & Professional Ethics	5
Total	100

Detailed Rubric for Project-III (8th Semester)

Table 3.5.11: Project-III Rubric

Criterion	Excellent (4)	Good (3)	Satisfactory (2)	Needs Improvement (1)
Implementation & Technical Quality	Fully functional, optimized, and robust implementation	Functional system with minor deficiencies	Partially functional implementation	Incomplete implementation
Testing, Validation & Result Analysis	Comprehensive testing with detailed performance evaluation	Adequate testing and analysis	Limited testing and analysis	Minimal testing and analysis
Innovation & Use of Modern Technologies	Highly innovative solution using appropriate modern technologies	Moderate innovation with suitable tools	Limited innovation	No innovation or tool usage
Sustainability & Societal Relevance	Strong consideration of societal, ethical, and sustainability aspects	Adequate consideration of impact	Limited consideration	No consideration
Documentation & Report Preparation	Professional, complete, and technically sound report	Good documentation with minor gaps	Acceptable documentation	Poor documentation

Demonstration, Presentation & Communication	Excellent demonstration and communication skills	Good presentation and demonstration	Satisfactory presentation	Ineffective presentation
Technical Understanding (Viva)	Demonstrates complete mastery of implementation and outcomes	Good technical understanding	Basic understanding	Poor technical knowledge
Teamwork, Project Management & Professional Ethics	Excellent leadership, project management, teamwork, and ethics	Good participation and management	Moderate participation	Poor teamwork and professionalism

Marks Obtained=(Rating/4)×Maximum Marks

Table 3.5.12: Mapping of Project-III Evaluation Parameters with COs

Evaluation Parameter	CO1	CO2	CO3	CO4	CO5	CO6
Implementation & Technical Quality (25)	25	-	-	-	-	-
Testing, Validation & Result Analysis (20)	-	20	-	-	-	-
Innovation & Use of Modern Technologies (15)	-	-	10	5	-	-
Sustainability & Societal Relevance (5)	-	-	-	5	-	-
Documentation & Report Preparation (10)	-	-	-	-	10	-
Demonstration, Presentation & Communication (10)	-	-	-	-	5	5
Technical Understanding (Viva) (10)	-	-	10	-	-	-
Teamwork, Project Management & Professional Ethics (5)	-	-	-	-	-	5
Total Marks for CO	25	20	20	10	15	10

		Progress Review-I	Progress Review-II	Project-III Evaluation						
Roll No.	Name	Implementation & Technical Quality (25)	Testing, Validation & Result Analysis (20)	Innovation & Use of Modern Technologies (15)	Sustainability & Societal Relevance (5)	Documentation & Report Preparation (10)	Demonstration, Presentation & Communication (10)	Technical Understanding (Viva) (10)	Teamwork, Project Management & Professional Ethics (5)	Total Marks

Generic Rubric Levels Used in Project Evaluation

Score	Performance Level	Description
4	Excellent	Exceeds expectations with outstanding quality
3	Good	Meets expectations with minor deficiencies
2	Satisfactory	Meets minimum requirements

1	Needs Improvement	Does not adequately meet requirements
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3.6 Evidence of Addressing Sustainable Development Goals (SDG) (10)

3.6 Evidence of Addressing Sustainable Development Goals (SDGs) (10)

The Sustainable Development Goals (SDGs), adopted by the United Nations as part of the 2030 Agenda for Sustainable Development, provide a global framework and technological challenges. Recognizing the importance of sustainability in engineering education, the Department of Computer Science and Engineering has integrated these principles into its academic, research, innovation, and outreach activities.

As SDG implementation is a relatively new initiative within the department, efforts have been focused on creating awareness among faculty members and students in Computer Science and Engineering, and gradually incorporating sustainability considerations into teaching-learning processes, student projects, internships, research, and outreach activities.

The department has adopted a phased approach towards SDG integration, beginning with awareness generation, mapping of existing activities to relevant SDGs, and establishing mechanisms for documenting and monitoring sustainability-related initiatives. These efforts are expected to strengthen progressively in the coming years through sustained efforts.

3.6.1 Departmental Initiatives Towards SDG Integration

During the assessment period, the department initiated the following measures to align its activities with Sustainable Development Goals:

1. Conducted awareness sessions for faculty members and students on the importance of SDGs and sustainable development.
2. Identified SDGs that can be effectively addressed through Computer Science and Engineering education and technological interventions.
3. Encouraged students to select project topics addressing societal, environmental, healthcare, agricultural, and digital inclusion challenges.
4. Promoted the use of emerging technologies such as Artificial Intelligence, Data Analytics, Internet of Things (IoT), Cloud Computing, and Cyber Security for sustainable development.
5. Encouraged participation in community-oriented technical activities and awareness programs.
6. Initiated documentation of SDG-linked projects, internships, research activities, and outreach programs.
7. Promoted environmentally responsible practices such as digital communication, online submissions, and reduced paper usage.
8. Started incorporating discussions on sustainability, ethics, and societal impact within relevant courses and project reviews.

These initiatives represent the department's initial efforts toward embedding sustainability considerations within the academic ecosystem.

3.6.2 Identification of Relevant SDGs for the Department

Considering the nature of Computer Science and Engineering education, the department has identified the following SDGs as particularly relevant to its academic and research activities:

Table 3.6.1: SDGs Relevant to the Department of Computer Science and Engineering

SDG	Sustainable Development Goal	Relevance to Department Activities
SDG 4	Quality Education	Technology-enabled learning, digital education, skill development
SDG 5	Gender Equality	Equal opportunities and inclusive participation
SDG 8	Decent Work and Economic Growth	Employability, internships, entrepreneurship, skill enhancement
SDG 9	Industry, Innovation and Infrastructure	Innovation, research, software development, digital infrastructure
SDG 10	Reduced Inequalities	Digital inclusion and accessibility solutions
SDG 11	Sustainable Cities and Communities	Smart city and IoT-based applications
SDG 12	Responsible Consumption and Production	Paperless practices and resource optimization
SDG 13	Climate Action	Green computing and environmental awareness
SDG 16	Peace, Justice and Strong Institutions	Cyber security, ethics, responsible technology usage
SDG 17	Partnerships for the Goals	Industry-academia collaboration and community engagement

The department has prioritized these SDGs for gradual integration into academic and co-curricular activities.

3.6.3 Initial Mapping of Existing Activities with SDGs

As part of the SDG adoption process, the department reviewed existing academic and student activities and mapped them to relevant Sustainable Development Goals.

Table 3.6.2: Mapping of Existing Department Activities with SDGs

Activity	Relevant SDGs
Outcome-Based Education and mentoring system	SDG 4
Internship and placement activities	SDG 8
Innovation and project development activities	SDG 9
Entrepreneurship awareness programs	SDG 8, SDG 9
Cyber security awareness programs	SDG 16
Digital literacy and outreach activities	SDG 4, SDG 10
Smart city and IoT-based student projects	SDG 11
Paperless communication and online processes	SDG 12
Environmental awareness activities	SDG 13
Industry collaborations and MoUs	SDG 17

This mapping exercise helped the department identify opportunities for strengthening sustainability-oriented initiatives.

3.6.4 Curriculum Support for Sustainable Development

Although the curriculum is prescribed by the affiliating university, several courses provide opportunities to discuss sustainability-related issues and societal applications.

Table 3.6.3: Curriculum Components Supporting SDGs

Curriculum Component	Contribution to Sustainable Development
Environmental Studies	Environmental awareness and sustainability
Constitution of India and Professional Ethics	Social responsibility and ethical practices
Project Work	Technology solutions for societal challenges
Internship / Industrial Training	Exposure to industrial practices and sustainability initiatives
Emerging Technology Courses	AI, IoT, Data Analytics and Cloud applications for sustainable development
MOOCs and Value-Added Courses	Lifelong learning and awareness of global challenges

Faculty members have been encouraged to discuss real-world applications of technology that contribute to sustainable development wherever appropriate.

3.6.5 Encouraging SDG-Oriented Student Projects

The department has recently started motivating students to consider sustainability-related themes while selecting mini-projects, major projects, and innovation activities.

Representative Project Areas Encouraged

1. Smart Waste Management Systems.
2. IoT-Based Water Monitoring Systems.
3. Smart Agriculture Applications.
4. Healthcare Monitoring Solutions.
5. AI-Based Disease Prediction Systems.
6. Smart Traffic Management Systems.
7. Disaster Management Applications.
8. Assistive Technologies for Differently Abled Persons.
9. Cyber Security Solutions for Public Safety.
10. Energy Monitoring and Optimization Systems.
11. E-Governance Applications.
12. Environmental Monitoring Systems.

Students are encouraged to identify the SDG addressed by their project during project proposal and review stages.

3.6.6 Research and Innovation Initiatives

The department has initiated discussions on aligning research and innovation activities with societal and sustainability challenges. Faculty members and students contribute to sustainable development.

Emerging Areas of Interest

- Artificial Intelligence for Healthcare.
- Data Analytics for Decision Support Systems.
- Smart Agriculture Applications.
- Internet of Things for Resource Monitoring.
- Cyber Security for Secure Digital Infrastructure.
- Cloud-Based Sustainable Computing Solutions.
- Smart Energy Monitoring Systems.
- Environmental Data Analysis and Prediction.
- Assistive Technologies for Inclusive Development.

The department plans to strengthen SDG-oriented research activities through future collaborations, publications, and innovation initiatives.

3.6.7 Community Engagement and Awareness Activities

As part of its initial SDG implementation efforts, the department has encouraged participation in community-oriented activities that contribute to social development.

Activities Conducted / Encouraged

1. Digital Literacy Awareness Programs.
2. Cyber Security Awareness Sessions.
3. Responsible Use of Social Media Campaigns.
4. Environmental Awareness Programs.
5. Tree Plantation and Clean Campus Activities.
6. E-Waste Awareness Programs.
7. Career Guidance Sessions for School Students.
8. Community-Oriented Technical Workshops.
9. Participation in Swachh Bharat Initiatives.
10. Awareness Programs on Sustainable Technology Practices.

These activities help students understand societal challenges and develop a sense of social responsibility.

3.6.8 Green Computing and Sustainable Practices

The department has initiated several environmentally responsible practices that contribute to sustainability and efficient resource utilization.

Practices Adopted

- Increased use of digital communication and documentation.
- Online assignment submission and evaluation wherever feasible.
- Reduction in paper-based administrative processes.
- Promotion of cloud-based collaboration platforms.
- Awareness regarding responsible use of computing resources.
- Encouragement of energy conservation practices in laboratories.
- Responsible disposal of electronic waste through institutional mechanisms.
- Use of virtual meetings and online interactions to reduce resource consumption.

These initiatives represent the departments initial efforts toward promoting sustainable practices within its operational environment.

3.6.10 Future Roadmap and Continuous Improvement

As SDG integration is at an early stage, the department has prepared a roadmap for strengthening sustainability initiatives in a structured manner.

Planned Actions

1. Formal mapping of courses with relevant SDGs.
2. Inclusion of SDG identification in project proposal formats.
3. Increasing the number of SDG-oriented projects and internships.
4. Organizing dedicated workshops and expert lectures on sustainability.
5. Encouraging interdisciplinary projects addressing societal challenges.
6. Strengthening industry collaboration for sustainability-focused internships and projects.
7. Promoting research publications addressing SDG-related themes.
8. Developing mechanisms for measuring the impact of SDG initiatives.
9. Expanding community engagement and outreach activities.
10. Establishing annual review and monitoring of SDG-related activities.

The department views Sustainable Development Goals as an important dimension of engineering education and has initiated the process of integrating sustainability activities. Through gradual implementation, continuous monitoring, and stakeholder participation, the department aims to strengthen its contribution toward sustainability by addressing future societal and technological challenges responsibly.

3.7 Attainment of Course Outcomes (25)

3.7.1. Describe the Assessment Tools and Processes Used to Gather the Data for the Evaluation of Course Outcome (5)

3.7 Attainment of Course Outcomes (25)

3.7.1 Describe the Assessment Tools and Processes Used to Gather the Data for Evaluation of Course Outcomes

The Department of Computer Science and Engineering follows a systematic Outcome Based Education (OBE) framework for measuring Course Outcome (CO) a Internal Evaluation (CIE) and Semester End Examination (SEE) processes prescribed by MAKAUT. The assessment system identifies, collects, analyzes, and integrates data to which Course Outcomes are achieved.

The assessment process consists of both direct and indirect assessment methods. However, CO attainment is primarily measured through direct assessment tools

Direct Assessment Tools

For Theory Courses:

- Continuous Assessment-I (CA1)
- Continuous Assessment-II (CA2)
- Continuous Assessment-III (CA3)
- Continuous Assessment-IV (CA4 – University Online Assessment)
- Semester End Examination (SEE)

For Laboratory Courses:

- Practical Continuous Assessment-I (PCA1)
- Practical Continuous Assessment-II (PCA2)
- End Semester Practical Examination
- Laboratory Performance
- Viva-Voce
- Laboratory Record Evaluation

For Internship Courses:

- Industry Mentor Evaluation
- Faculty Mentor Evaluation
- Internship Report
- Presentation
- Viva-Voce

For Project Courses:

- Progress Reviews
- Demonstration
- Technical Report
- Presentation
- Viva-Voce
- Rubric-Based Assessment

Indirect Assessment Tools

The following tools are used for indirect assessment:

- Program Exit Survey
- Alumni Feedback Survey
- Employer Feedback Survey

Indirect assessment is primarily utilized for PO and PSO attainment calculations.

Table 3.7.1(a): Assessment Tools Used for CO Attainment

Course Type	Assessment Tools	Frequency
Theory	CA1, CA2, CA3, CA4, SEE	Every Semester
Laboratory	PCA1, PCA2, End Semester Practical Examination	Every Semester
Internship	Mentor Evaluation, Report, Presentation, Viva	Assigned Semester

Project	Reviews, Demonstration, Report, Viva	Assigned Semesters
---------	--------------------------------------	--------------------

3.7.1.1 Data Acquisition Process

The following data are collected for CO attainment analysis:

- Course Outcomes (COs)
- CO–PO/PSO Mapping Matrix
- Assessment Plan
- CO-wise Marks Distribution
- CA1–CA4 Marks
- SEE Marks
- PCA1–PCA2 Marks
- Practical Examination Marks
- Internship Evaluation Records
- Project Evaluation Records
- Rubric-Based Assessment Sheets

The subject teacher/s prepares the assessment plan and CO-wise marks distribution at the beginning of the semester in consultation with the Course Coordinator.

Figure 3.7.1: Course Outcome Attainment Process

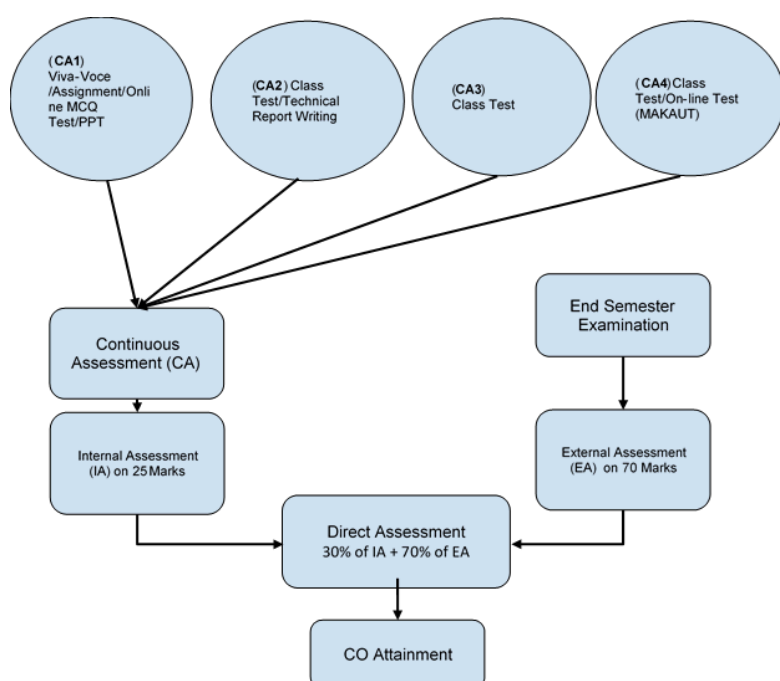
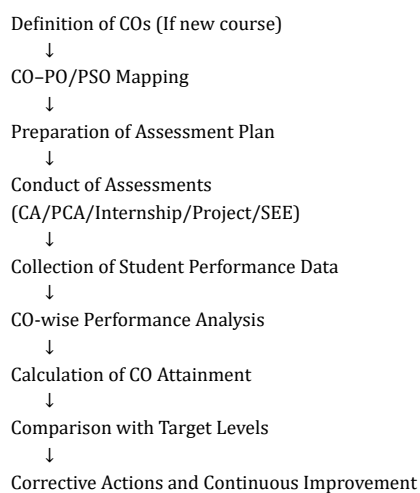


Figure 3.7.1a: Process for CO attainment through direct assessment tools for theory courses

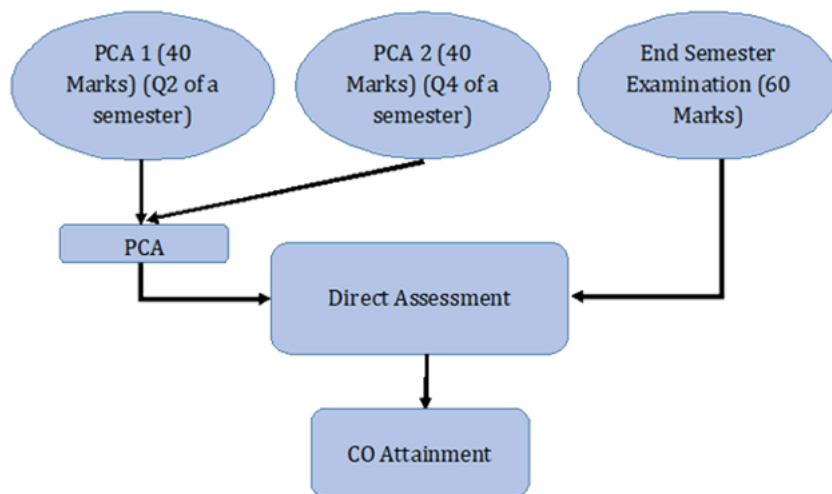


Figure 3.7.1b: Process for CO attainment through direct assessment tools for laboratory courses

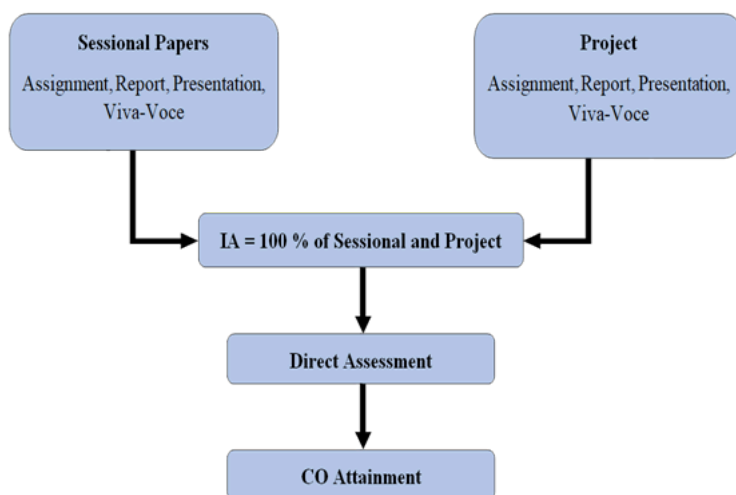


Figure 3.7.1c: Process for CO attainment through direct assessment tools for Sessional and Project

3.7.2 Record the Attainment of Course Outcomes of all Courses with Respect to Set Attainment Levels (20)

3.7.2 Record the Attainment of Course Outcomes of All Courses with Respect to Set Attainment Levels (2

The department has established Course Outcome attainment levels for all theory, laboratory, internship, and project courses based on the average performance of

The attainment targets are periodically reviewed by the Department Academic Committee (DAC) to ensure continuous improvement.

3.7.2.1 Setting of CO Attainment Levels

The set target for a course is determined using the average performance of students in the previous two academic years of that course.

Target Level = Average (Average Marks in CAYm1 + Average Marks in CAYm2)

The attainment levels based on the set target for all courses are defined as follows.

Table 3.7.2(a): CO Attainment Levels

Percentage of Students Scoring Above Target Level	Attainment Level
<60%	Level 1
≥ 60% and < 70%	Level 2
≥ 70%	Level 3

3.7.2.2 CO Assessment Through Theory Courses

For theory courses, attainment is measured through:

- CA1
- CA2
- CA3
- CA4
- Semester End Examination

The department ensures that each CO is adequately assessed through appropriate assessment instruments and that sufficient marks are allocated for evaluation of

Table 3.7.2(b): Sample CO-wise Marks Distribution for a Theory Course

Assessment Tool	CO1	CO2	CO3	CO4	CO5	CO6
CA1	10	15	-	-	-	-
CA2	5	10	15	-	-	-
CA3	-	-	5	15	5	-
CA4	-	-	5	5	7	8
Total	15	25	25	20	12	8

3.7.2.3 CO Assessment Through Laboratory Courses

For laboratory courses, attainment is measured through:

- PCA1
- PCA2
- End Semester Practical Examination

Assessment components include:

- Experiment Execution
- Observation and Analysis
- Coding/Implementation
- Viva-Voce
- Laboratory Record Evaluation

3.7.2.4 CO Assessment Through Internship and Project Courses

Internship and Project Course Outcomes are evaluated using rubric-based assessment methodologies. Multiple review stages, presentations, reports, demonstration of the respective COs.

3.7.2.5 CO Attainment Calculation Methodology

The attainment process consists of two stages.

Stage-I: Data Acquisition

The following information is collected:

- CO-PO/PSO Mapping
- Assessment Plan
- Marks Distribution
- Student Performance Data

Stage-II: Attainment Calculation

For each Course Outcome:

Percentage Attainment = (Marks Obtained / Marks Allotted) × 100

For theory courses:

Final CO Attainment = 30% (CIE) + 70% (SEE)

For laboratory courses:

Final CO Attainment = 40% (PCA) + 60% (End Semester Practical Examination)

For internship and project courses:

CO attainment is computed based on weighted rubric scores obtained through continuous assessment and final evaluation.

Example of the part of Attainment Course Outcome: Course: Data Structure & Algorithm (PCC-CS 301)

Course Information Sheet

DEPARTMENT	Computer Science and Engineering (CSE) (BCREC)
COURSE NAME	Data Structure & Algorithm
COURSE CODE	PCC-CS301
SESSION OF COURSE	2022-2023
L-T-P :-	3-0-0
SEMESTER	III
CREDIT	3
BATCH	2021-2025
Name of the Subject Teacher/s	Ruma Ghosh

Course Outcome description

Course Name	Data Structure & Algorithm					
Course Code	PCC-CS301	Semester	III	Year of Study	2022-2023	Cognitive Level
Course Outcome						
PCC-CS301.1	Explain how the choices of data structure & algorithm methods impact the performance of an algorithm.					L2
PCC-CS301.2	Discuss different kinds of operations, algorithms with complexity analysis and applications of stack, queue and linked list.					L2
PCC-CS301.3	Understand the non-linear data structure like trees and graphs, their definitions, algorithms with complexity analysis and applications.					L2
PCC-CS301.4	Discuss the computational efficiency of the principal algorithms for sorting, searching, and hashing.					L2
PCC-CS301.5	Illustrate the benefits of dynamic and static data structures implementations.					L3

Set the Target Level	Attainment Level		
	3	2	1
	>=	Scale 3 >but >= scale 2	> scale2
Target=Avg(avgCAYm1,avgCAYm2)	60	40	20

Table: Target Level vs Attainment Level (3,2,1)

COs to POs Mapping														
Sub_Co de	Sub_Na me	POs	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO 11	PO1 2
PCC-CS301	Data Structur e & Algorith m	CO1	3	2	2	2		1						3
		CO2	3	3	3	3		1						3
		CO3	3	3	3	3		1						3
		CO4	3	3	3	3		1						3
		CO5	3	2	2	2								3

COs to PSOs Mapping					
Sub_Cod e	Sub_Nam e	PSOs	PSO 1	PSO 2	PSO 3
PCC-CS301	Data Structure & Algorithm	CO1	3	1	1
		CO2	3	2	1
		CO3	3	2	1
		CO4	3	2	1
		CO5	3	2	1

Marks Distribution for continuous assessment (CA)

Continuous Assessment	Tool and Methodology	CO1	CO2	CO3	CO4	CO5	Total Marks
CA1	Presentation+Viva	5	20				25
CA2	Technical Report Writing		10	5	10		25
CA3	Class test 1			10	10	5	25
CA4	Online test	5	5	5	5	5	25
Total marks for individual COs -->		10	35	20	25	10	

		CA1					Final CA1 Marks	CA2					Final CA2 Marks	CA3					Final CA3 Marks	CA4					Final CA4 Marks	End Semester Marks	
		PPT Presentation						Technical Report writing						Class Test						online MCQ							
		CO1	CO2	CO3	CO4	CO5		CO1	CO2	CO3	CO4	CO5		CO1	CO2	CO3	CO4	CO5		CO1	CO2	CO3	CO4	CO5			
COs-->		CO1	CO2	CO3	CO4	CO5		CO1	CO2	CO3	CO4	CO5		CO1	CO2	CO3	CO4	CO5		CO1	CO2	CO3	CO4	CO5			
Max Marks-->		5	20	0	0	0		0	10	5	10	0		0	0	10	10	5		5	5	5	5	5			
University Roll N	Name	Insert marks obtained in CA1						Insert marks obtained in CA2						Insert marks obtained in CA3						Insert marks obtained in CA4							
12000121001	ARIANA KUMARI	4	16	0	0	0	21	0	8	4	8	0	20	0	0	8	8	4	1	21	2	2	2	2	2	12	55
12000121002	KOUSHIK MONDAL	4	19	0	0	0	25	0	10	4	9	0	25	0	0	9	9	4	1	23	3	3	3	3	2	17	75
12000121003	ABHISHEK DASGUPTA	5	19	0	0	0	25	0	9	4	10	0	25	0	0	9	10	4	2	25	4	4	4	4	1	21	75
12000121004	SONALI DEBNATH	4	18	0	0	0	23	0	8	4	9	0	22	0	0	9	9	4	1	23	2	2	2	2	-1	9	85
12000121006	AVIK KARMAR	4	16	0	0	0	21	0	8	4	9	0	23	0	0	0	0	0	0	0	2	2	2	2	2	11	55
12000121007	SUBHAYU DUTTA	5	19	0	0	0	25	0	9	4	10	0	25	0	0	9	10	4	2	25	3	4	4	4	2	21	75
12000121008	Ayush Banerjee	4	17	0	0	0	22	0	8	4	9	0	22	0	0	9	9	4	0	22	2	2	2	2	2	10	85
12000121009	SOUBHAY MANJEE	4	18	0	0	0	23	0	9	5	9	0	25	0	0	8	8	4	0	20	3	3	3	3	0	15	65
12000121010	NEHANT KUMAR	4	16	0	0	0	21	0	9	4	9	0	24	0	0	9	9	4	1	23	3	3	3	3	1	16	65
12000121011	HARSH RAJ KUMAR	4	16	0	0	0	21	0	8	4	8	0	21	0	0	8	8	4	1	21	3	3	3	3	1	16	65
12000121012	ASHISH KUMAR	4	19	0	0	0	24	0	10	4	9	0	24	0	0	7	7	3	1	18	3	3	3	3	0	15	85
12000121013	SOUMYADEEP GAR	4	19	0	0	0	24	0	9	5	9	0	24	0	0	9	10	4	2	25	3	4	4	3	1	18	65

		Maximum marks in CA1,CA2,CA3 and CA4																			
		CO1				CO2				CO3				CO4				CO5			
University Roll No	Name	CA1	CA2	CA3	CA4	CA1	CA2	CA3	CA4	CA1	CA2	CA3	CA4	CA1	CA2	CA3	CA4	CA1	CA2	CA3	CA4
12000121001	ARPANA KUMARI	4	0	0	2	16	8	0	2	0	4	8	2	0	8	8	2	0	0	4	2
12000121002	KOUSHICK MONDAL	4	0	0	3	19	10	0	3	0	4	9	3	0	9	9	3	0	0	4	3
12000121003	ABHISHEK DASGUPTA	5	0	0	4	19	9	0	4	0	4	9	4	0	10	10	4	0	0	4	4
12000121004	SONALI DEBNATH	4	0	0	2	18	8	0	2	0	4	9	2	0	9	9	2	0	0	4	2
12000121006	AVIK KARMAKAR	4	0	0	2	16	8	0	2	0	4	0	2	0	9	0	2	0	0	0	2
12000121007	SUBHAYU DUTTA	5	0	0	3	19	9	0	4	0	4	9	4	0	10	10	4	0	0	4	4
12000121008	Aiyush Banerjee	4	0	0	2	17	8	0	2	0	4	9	2	0	9	9	2	0	0	4	2
12000121009	SOURAV MANJEE	4	0	0	3	18	9	0	3	0	5	8	3	0	9	8	3	0	0	4	3
12000121010	NISHANT KUMAR	4	0	0	3	16	9	0	3	0	4	9	3	0	9	9	3	0	0	4	3
12000121011	HARSH RAJ KUMAR GUPTA	4	0	0	3	16	8	0	3	0	4	8	3	0	8	8	3	0	0	4	3
12000121012	ASHISH KUMAR	4	0	0	3	19	10	0	3	0	4	7	3	0	9	7	3	0	0	3	3
12000121013	SOUMYADEEP GARAI	4	0	0	3	19	9	0	4	0	5	9	4	0	9	10	3	0	0	4	3

TOTAL NO. OF STUDENTS FOR THIS BATCH						135	
COURSE OUTCOMES	GRADING SCALE OF 3	Level 3 >=	60	Level3>Level2 >=	40	Level 1 < Level2	
		Total no. of std achieved	%	Total no. of std achieved	%	Total no. of std achieved	%
CO1	2.67	94	69.63	38	28.15	3	2.22
CO2	2.79	109	80.74	24	17.78	2	1.48
CO3	2.76	103	76.3	31	22.96	1	0.74
CO4	2.78	106	78.52	28	20.74	1	0.74
CO5	2.7	96	71.11	37	27.41	2	1.48
Average-->	2.74	Students (%) attained the target -->	75				

University Roll No	Name	Mark s obtain n for CO1 in CA1	Mark s obtain n for CO1 in CA2	Mark s obtain n for CO1 in CA3	Mark s obtain n for CO1 in CA4	Total Marks obtain for CO through All CA1 to CA4	Internal CO attainment (%)	End Sem Equivalent Marks (%)	30% of Internal Asset(IA) +70% of End Sem University Assest (UA)	Score s or Grading based on scale of 3 ,2 or 1	60 Target= Avg of UNI Res of CAYM 1 and CAYM 2
12000121001	ARPANA KUMARI	4	0	0	2	6	60	55	56.5	2	No
12000121002	KOUSHICK MONDAL	4	0	0	3	7	70	75	73.5	3	Yes
12000121003	ABHISHEK DASGUPTA	5	0	0	4	9	90	75	79.5	3	Yes
12000121004	SONALI DEBNATH	4	0	0	2	6	60	85	77.5	3	Yes
12000121006	AVIK KARMAKAR	4	0	0	2	6	60	55	56.5	2	No
12000121007	SUBHAYU DUTTA	5	0	0	3	8	80	75	76.5	3	Yes
12000121008	Aiyush Banerjee	4	0	0	2	6	60	85	77.5	3	Yes
12000121009	SOURAV MANJEE	4	0	0	3	7	70	65	66.5	3	Yes
12000121010	NISHANT KUMAR	4	0	0	3	7	70	65	66.5	3	Yes
12000121011	HARSH RAJ KUMAR GUPTA	4	0	0	3	7	70	65	66.5	3	Yes
12000121012	ASHISH KUMAR	4	0	0	3	7	70	85	80.5	3	Yes
12000121013	SOUMYADEEP GARAI	4	0	0	3	7	70	65	66.5	3	Yes

...	...	...				...	...				
12000122137	MD IRFAN KHAN	0	0	0	3	3	30	65	54.5	2	No
12000122138	SOURAV KUMAR	0	0	0	3	3	30	45	40.5	2	No
12000122139	TANUDIP CHATTERJEE	0	0	0	3	3	30	55	47.5	2	No
12000122140	SOUVIK CHOWDHURY	0	0	0	2	2	20	45	37.5	1	No
12000122141	ANKITA SAHA	0	0	0	2	2	20	65	51.5	2	No
12030621014	RITABRATA MANDAL	0	0	0	3	3	30	75	61.5	3	Yes
12031521009	SUDIP KUMAR SANTRA	0	0	0	3	3	30	75	61.5	3	Yes

						SUM	3300			361	94	Yes Count
						Count	135			135	41	No Count
						Average	24.44			2.67	69.63	% of Yes
										No. of Std	%	
							Achieved Level 3			94	69.63	
							Achieved Level 2			38	28.15	
							Achieved Level 1			3	2.22	
							Total no. of Student			135		

TOTAL NO. OF STUDENTS FOR THIS BATCH						135	
COURSE OUTCOMES	GRADING AVG ON SCALE OF 3	Level 3 >=	60	Level3>Level2 >=	40	Level 1 < Level2	
		Total no. of std achieved	%	Total no. of std achieved	%	Total no. of std achieved	%
CO1	2.67	94	69.63	38	28.15	3	2.22
CO2	2.79	109	80.74	24	17.78	2	1.48
CO3	2.76	103	76.3	31	22.96	1	0.74
CO4	2.78	106	78.52	28	20.74	1	0.74
CO5	2.7	96	71.11	37	27.41	2	1.48
Average-->	2.74	Students (%) attained the target -->	75				

Table 3.7.2(c): Record the Attainment of Course Outcomes of all Courses with Respect to Set Attainment Levels

Subject Code	Subject Name	CO1	CO2	CO3	CO4	CO5	CO6
BS-PH101	Physics I	2.97	2.98	2.97	2.98	2.98	-
BS-M101	Mathematics IA	2.92	2.9	2.95	2.88	2.97	2.86
ES-EE101	Basic EE	2.84	2.81	2.87	2.8	2.82	-
BS-PH191	Physics I Lab	2.97	2.94	2.98	2.97	2.96	-
ES-EE191	Basic EE Lab	2.59	2.65	2.72	2.8	2.84	-
ES-ME192	WorkShop	2.94	2.93	2.94	2.94	2.98	-
BS-CH201	Chemistry I	2.99	2.98	2.98	2.89	2.9	2.74
BS-M201	Mathematics IIA	2.92	2.94	2.73	2.43	2.88	2.86

HM-HU201	English	2.98	2.98	2.98	2.98	2.98	2.98
BS-CH291	Chemistry Lab	2.81	2.84	2.85	2.87	2.72	2.7
ES-ME291	Engg Drawing	2.81	2.88	2.82	2.74	2.71	2.62
HM-HU291	Language Laboratory	2.86	2.87	2.73	2.64	2.88	2.91
ES-CS201	Programming for Problem Solving	2.97	2.97	2.95	2.93	2.87	2.85
ES-CS291	Programming for Problem Solving Lab	2.55	2.58	2.76	2.82	2.79	2.69
PCC-CS301	Data Structure & Algorithm	2.67	2.79	2.76	2.78	2.7	-
PCC-CS391	Data Structure & Algorithm Lab	2.69	2.76	2.81	2.76	2.87	-
PCC-CS302	Computer Organisation	2.49	2.46	2.47	-	2.33	-
PCC-CS392	Computer Organisation Lab	2.42	2.56	2.78	2.84	2.96	-
PCC-CS393	IT Workshop (Python)	2.53	2.73	2.73	2.82	-	-
ESC 301	Analog and Digital Electronics	2.41	2.41	2.33	2.37	2.31	2.23
ESC 391	Analog and Digital Electronics Lab	2.39	2.59	2.77	2.76	-	-
BSC 301	Mathematics-III	2.33	2.36	1.81	2.26	2.8	1.81
HSMC 301	Economics for Engineers	2.69	2.73	2.9	2.87	2.67	2.58
PCC-CS401	Discrete Mathematics	2.46	2.43	2.58	2.2	2.48	2.2
PCC-CS402	Computer Architecture	2.11	2.11	2.25	2.39	2.58	-
PCC-CS492	Computer Architecture Lab	2.64	2.57	2.69	2.86	2.81	-
PCC-CS403	Formal Language & Automata Theory	2.62	2.62	2.77	2.92	2.89	2.6
PCC-CS404	Design & Analysis of Algorithms	2.33	2.43	2.54	2.54	2.54	-
PCC-CS494	Design & Analysis of Algorithms Lab	1.73	2.25	2.82	2.95	-	-
BSC401	Biology	2.99	3	2.92	2.97	2.95	2.89
MC401	Environmental Sciences	2.83	2.84	2.67	2.69	2.68	2.59
PCC-CS501	Compiler Design	2.34	2.28	2.36	2.39	2.29	2.31
PCC-CS502	Operating Systems	2.42	2.45	2.48	2.49	2.29	
PCC-CS592	Operating Systems Lab	2.64	2.71	2.69	2.74	2.74	
PCC-CS503	Object Oriented Programming	2.44	2.46	2.51	2.49	2.38	2.38
PCC-CS593	Object Oriented Programming Lab	2.76	2.77	2.84	2.84	2.85	2.84

PEC-IT 501B	Artificial Intelligence	2.57	2.63	2.66	2.63	2.2 9	2.3
ESC501	Software Engineering	2.3	2.28	2.46	2.44	2.4 1	2.3 7
ESC591	Software Engineering Lab	2.51	2.66	2.77	2.84	2.8 2	
HSMC-501	Introduction to Industrial Management	2.67	2.49	2.48	2.63	2.2 2	
PCC- CS601	Database Management Systems	2.7	2.65	2.46	2.47	2.2 4	
PCC- CS691	Database Management Systems Lab	2.73	2.87	2.82	2.67	2.6 8	
PCC- CS602	Computer Networks	2.65	2.62	2.62	2.37	2.2 3	2.2
PCC- CS692	Computer Networks Lab	2.58	2.85	2.8	2.71	2.8 3	
PEC- IT602B	Data Warehousing & Data Mining	2.65	2.61	2.44	2.24	2.2 7	
OEC- IT601A	Numerical Methods	2.4	2.51		2.2	2.1 9	2.1 7
PROJ- CS601	Research Methodology	2.93	2.84	2.92	2.83	2.9 5	
PEC- CS701E	Machine learning	2.75	2.71	2.74	2.68	2.5 6	
PEC- CS702E	Cyber Security	2.8	2.7 3	2.7	2.7 4	2.4 9	
OEC- CS701A	Operations Research	2.8	2.71	2.44	2.44	2.4 4	2.4 4
HSMC701	Project Management and Entrepreneurship	2.82	2.8	2.64	2.71	2.5 1	
PROJ- CS781	Project-II	2.79	2.76	2.8	2.77	2.7 4	2.7 3
PEC- CS801E	Internet of Things	2.9	2.6	2.66	2.54	2.1 7	
OEC- CS801B	Cyber Law and Ethics	2.96	2.77	2.66	2.7	2.3 9	
OEC- CS802A	E-Commerce and ERP	2.71	2.72	2.66	2.66	2.3 4	2.3
PROJ- CS881	Project-III	2.86	2.86	2.86	2.87	2.6 3	2.6 2

Subject Code	Subject Name	Set targ et (%)	% of Students achiev ing the set target	Attainment Level 40>=1 <60% 2 >=60% & <70% 3 >=70%
BS-PH101	Physics I	65	81	3
BS-M101	Mathematics IA	87	91	3
ES-EE101	Basic EE	82	83	3
BS-PH191	Physics I Lab	65	95	3
ES-EE191	Basic EE Lab	73	72	3
ES- ME192	WorkShop	73	95	3
BS- CH201	Chemistry I	72	91	3
BS-M201	Mathematics IIA	82	80	3

HM-HU201	English	65	98	3
BS-CH291	Chemistry Lab	65	82	3
ES-ME291	Engg Drawing	70	76	3
HM-HU291	Language Laboratory	65	81	3
PCC-CS201	Programming for Problem Solving	72	92	3
PCC-CS291	Programming for Problem Solving Lab	77	73	3
PCC-CS301	Data Structure & Algorithm	60	75	3
PCC-CS391	Data Structure & Algorithm Lab	65	81	3
PCC-CS302	Computer Organisation	60	50	1
PCC-CS392	Computer Organisation Lab	72	77	3
PCC-CS393	IT Workshop (Python)	70	73	3
ESC 301	Analog and Digital Electronics	60	51	1
ESC 391	Analog and Digital Electronics Lab	73	73	3
BSC 301	Mathematics-III	60	39	0
HSMC 301	Economics for Engineers	60	73	3
PCC-CS401	Discrete Mathematics	60	50	1
PCC-CS402	Computer Architecture	60	42	1
PCC-CS492	Computer Architecture Lab	73	81	3
PCC-CS403	Formal Language & Automata Theory	72	74	3
PCC-CS404	Design & Analysis of Algorithms	60	59	1
PCC-CS494	Design & Analysis of Algorithms Lab	70	68	2
BSC401	Biology	80	89	3
MC401	Environmental Sciences	60	74	3
PCC-CS501	Compiler Design	60	45	1
PCC-CS502	Operating Systems	60	53	1
PCC-CS592	Operating Systems Lab	73	71	3
PCC-CS503	Object Oriented Programming	62	56	1
PCC-CS593	Object Oriented Programming Lab	73	83	3
PEC-IT 501B	Artificial Intelligence	60	58	1
ESC501	Software Engineering	60	51	1
ESC591	Software Engineering Lab	73	73	3
HSMC-501	Introduction to Industrial Management	65	55	1
PCC-CS601	Database Management Systems	60	58	1
PCC-CS691	Database Management Systems Lab	70	77	3
PCC-CS602	Computer Networks	60	51	1
PCC-CS692	Computer Networks Lab	73	76	3
PEC-IT602B	Data Warehousing & Data Mining	60	54	1
OEC-IT601A	Numerical Methods	60	45	1

PROJ-CS601	Research Methodology	73	90	3
PEC-CS701E	Machine learning	60	73	3
PEC-CS702E	Cyber Security	60	73	3
OEC-CS701A	Operations Research	60	66	2
HSMC701	Project Management and Entrepreneurship	63	72	3
PROJ-CS781	Project-I (Investigative Study) and Project-II (Dissertation)	75	77	3
PEC-CS801E	Internet of Things	60	60	2
OEC-CS801B	Cyber Law and Ethics	65	67	2
OEC-CS802A	E-Commerce and ERP	60	70	3
PROJ-CS881	Project-III	75	80	3

3.7.2.6 Corrective Actions Based on CO Attainment

Based on attainment analysis, the department undertakes:

- Remedial Classes
- Tutorial Sessions
- Assignment-Based Practice
- Doubt-Clearing Sessions
- Peer-Assisted Learning
- Laboratory Practice Sessions
- Personalized Mentoring
- Revision of Assessment Strategies

The attainment analysis is reviewed by the Department Academic Committee and appropriate corrective actions are implemented for continuous improvement.

3.8 Attainment of Program Outcomes and Program Specific Outcomes (25)

PO Attainment

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
BS-PH101	3	3	3	3	PO5	PO6	PO7	PO8
BS-M101	2.95	2.95	2.95	2.95	3	3	PO7	PO8
ES-EE101	2.88	2.88	2.94	2.85	PO5	3	PO7	PO8
BS-PH191	3	3	PO3	3	PO5	PO6	3	3
ES-EE191	2.76	2.79	2.85	2.85	2.7	3	PO7	PO8
ES-ME192	2.95	2.95	2.95	2.95	2.95	2.95	2.95	2.95
BS-CH201	2.93	2.98	2.98	3	PO5	2.98	PO7	2.97
BS-M201	2.85	2.85	2.85	2.85	2.93	2.94	PO7	PO8
HM-HU201	3	3	3	3	3	3	3	3
BS-CH291	2.85	2.86	PO3	2.93	PO5	2.95	PO7	2.85
ES-ME291	2.83	2.95	2.95	2.95	2.95	2.95	2.95	2.95
HM-HU291	2.95	2.91	2.9	2.93	2.95	2.95	2.92	2.88
ES-CS201	2.97	2.97	2.97	2.95	PO5	PO6	PO7	PO8
PCC-CS291	2.73	2.73	2.73	2.8	PO5	PO6	PO7	PO8
PCC-CS301	2.74	2.74	2.74	2.76	PO5	2.75	PO7	PO8
PCCCS391	2.78	2.78	2.78	2.78	PO5	PO6	PO7	2.78
PCC-CS302	2.48	2.52	2.52	PO4	2.52	PO6	PO7	PO8
PCC-CS392	2.76	2.88	2.76	PO4	2.79	PO6	PO7	2.76
PCC-CS393	2.7	2.7	2.7	2.71	2.7	PO6	PO7	2.7
ESC 301	2.42	2.39	2.43	2.43	2.4	PO6	PO7	PO8
ESC 391	2.65	2.65	2.66	2.65	2.7	PO6	3	2.85
BSC 301	2.28	2.28	2.28	2.28	2.28	2.4	PO7	PO8
HSMC 301	2.78	2.77	2.9	2.85	PO5	2.7	PO7	PO8
PCC-CS401	2.42	2.42	2.42	2.42	2.5	2.55	PO7	PO8
PCC-CS402	2.29	2.27	2.27	2.55	PO5	PO6	PO7	PO8
PCC-CS492	2.68	2.72	2.74	2.74	2.82	PO6	PO7	2.82
PCC-CS403	2.74	2.74	2.74	2.83	PO5	PO6	PO7	PO8
PCC-CS404	2.46	2.48	2.52	2.58	2.55	PO6	PO7	2.55
PCC-CS494	2.28	2.44	2.44	2.6	2.97	PO6	PO7	2.97
BSC401	3	3	3	PO4	3	3	PO7	PO8
MC401	2.8	PO2	PO3	PO4	PO5	2.75	2.75	PO8
PCC-CS501	2.33	2.33	2.34	2.3	2.3	PO6	PO7	PO8
PCC-CS502	2.43	2.43	2.43	2.55	PO5	PO6	PO7	PO8
PCC-CS592	2.71	2.7	2.72	2.74	2.69	PO6	PO7	PO8
PCC-CS503	2.44	2.45	2.44	2.55	2.45	2.49	2.4	PO8
PCC-CS593	2.81	2.81	2.82	2.79	2.82	2.85	2.85	PO8
PEC-IT 501B	2.52	2.52	2.5	2.58	PO5	PO6	PO7	PO8
ESC501	2.38	PO2	2.4	PO4	2.37	PO6	PO7	PO8
ESC591	2.72	2.76	2.76	PO4	2.77	PO6	PO7	PO8
HSMC-501	2.5	PO2	2.5	2.54	PO5	2.5	PO7	2.5
PCC-CS601	2.5	2.46	2.47	2.47	2.53	2.47	PO7	PO8
PCC-CS691	2.78	2.78	2.75	2.75	2.75	2.76	PO7	2.76
PCC-CS602	2.45	2.45	2.45	2.51	2.45	PO6	PO7	PO8
PCC-CS692	2.76	2.76	2.76	2.76	2.74	2.76	PO7	PO8
PEC-IT602B	2.46	2.61	2.61	2.25	2.25	PO6	PO7	PO8

OEC-IT601A	2.29	2.29	2.29	2.32	2.3	2.3	PO7	PO8
PROJ-CS601	2.89	2.88	2.92	2.88	2.84	2.9	2.83	PO8
PEC-CS701E	2.67	2.7	2.73	2.85	2.75	PO6	PO7	PO8
PEC-CS702E	2.69	2.74	2.77	2.8	PO5	2.7	2.6	PO8
OEC-CS701A	2.6	2.6	2.6	2.6	2.7	2.73	PO7	PO8
HSMC701	2.7	2.7	2.7	2.82	2.7	2.71	2.7	2.7
PROJ-CS781	2.79	2.79	2.79	2.83	2.79	2.73	2.73	2.75
PEC-CS801E	2.58	2.55	2.6	PO4	2.43	2.72	2.9	PO8
OEC-CS801E	2.65	2.58	2.59	2.4	2.59	2.66	2.65	PO8
OEC-CS802A	2.57	2.51	2.58	PO4	2.67	2.3	2.3	PO8
PROJ-CS881	2.88	2.87	2.87	2.95	2.87	2.76	2.75	2.63

PO Attainment Indirect

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
Program Exit	2.4	2.3	2.4	2.3	2.4	2.4	2.5	2.5
Alumni Feedt	2.7	2.6	2.4	2.9	3	3	2.6	3
Employer Fe	2.2	2	2.2	2	1.8	2.3	2.3	2.5

PO Attainment Level

Note: The Institution can fix the weightage of the indirect attainment maximum up to 20%.

Define the Weightage for Indirect Attainment:

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
Direct Attainment	2.68	2.70	2.69	2.72	2.68	2.76	2.78	2
InDirect Attainment	2.43	2.3	2.33	2.4	2.4	2.57	2.47	2
Overall Attainment	2.63	2.62	2.62	2.66	2.62	2.74	2.75	2

PSO Attainment

Course
BSPH101
BSM101
ESEE101
BSPH191
ESEE191
ESME192
BSCH201
BSM201
HMHU201
BSCH291
ESME291
HMHU291
ESCS201
PCCCS291
PCCCS301
PCCCS391
PCCCS302
PCCCS392
PCCCS393
ESC301

ESC391
BSC301
HSMC301
PCCCS401
PCCCS402
PCCCS492
PCCCS492
PCCCS403
PCCCS404
PCCCS494
BSC401
MC401
PCCCS501
PCCCS502
PCCCS592
PCCCS503
PCCCS593
PECIT501B
ESC501
ESC591
HSMC501
PCCCS601
PCCCS691
PCCCS602
PCCCS692
PECIT602B
OEKIT601A
PROJCS601
PECCS701E
PECCS702E
OECCS701A
HSMC701
PROJCS781
PECCS801E
OECCS801B
OECCS802A
PROJCS881

PSO Attainment Indirect

Survey
Program Exit Survey
Alumni Feedback
Employer Feedback

PSO Attainment Level

Course
Direct Attainment
InDirect Attainment
Overall Attainment

4 STUDENTS' PERFORMANCE (120)

Table No. 4A: Admission details for the program excluding those admitted through multiple entry and exit points.

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	2025-26 (CAY)	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)	2021-22 (CAYm4)	2020-21 (CAYm5)	2019-20 (CAYm6)
N=Sanctioned intake of the program (as per AICTE /Competent authority)	180	180	120	120	120	120	120
N1=Total no. of students admitted in the 1st year minus the no. of students, who migrated to other programs/ institutions plus no. of students, who migrated to this program	178	192	126	127	124	121	123
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	7	15	12	14	14	12
N3=Separate division if any	0	2	0	1	2	11	7
N4=Total no. of students admitted in the 1st year via all supernumerary quotas	0	0	0	0	0	0	0
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	178	201	141	140	140	146	142

Table No. 4B: Admission details for the program through multiple entry and exit points.

	Item (No. of students admitted/exited through multiple entry and exit points) in the respective batch	2025-26 (CAY)	2024-25 (CAYm1)
N52=No. of students admitted in 2nd year via multiple entry and exit points in same batch	N52=No. of students admitted in 2nd year via multiple entry and exit points in same batch	0	0
N53=No. of students admitted in 3rd year via multiple entry and exit points in same batch	N53=No. of students admitted in 3rd year via multiple entry and exit points in same batch	0	0
N54=No. of students admitted in 4th year via multiple entry and exit points in same batch	N54=No. of students admitted in 4th year via multiple entry and exit points in same batch	0	0
N5=N52+N53+N54	N5=N52+N53+N54	0	0
N61=No. of students exits after 1st year via multiple entry and exit points in same batch	N61=No. of students exits after 1st year via multiple entry and exit points in same batch	1	4
N62=No. of students exit after 2nd year via multiple entry and exit points	N62=No. of students exit after 2nd year via multiple entry and exit points	0	0
N63=No. of students exit after 3rd year via multiple entry and exit points in same batch	N63=No. of students exit after 3rd year via multiple entry and exit points in same batch	0	0
N6=N61+N62+N63	N6=N61+N62+N63	1	4

Table No. 4C: No. of students graduated within the stipulated period of the program.

Year of entry	Total no. of students (N1 + N2 + N3+ N4 + N5 - N6 as defined above)	Number of students who have successfully graduated in sti	
		I year	II year
2025-26 (CAY)	177		
2024-25 (CAYm1)	197	190	
2023-24 (CAYm2)	138	123	136
2022-23 (CAYm3)	137	123	135
2021-22 (LYG)	132	121	132
2020-21 (LYGm1)	141	122	146
2019-20 (LYGm2)	140	123	140

4.1 Enrolment Ratio (20)

Get Details from Table 4.1

Table No.4.1.1: Student enrolment ratio in the 1st year.

Year of entry	N (From Table 4.1)	N1 (From Table 4.1)	N4 (From Table 4.1)
2025-26 (CAY)	180	178	0
2024-25 (CAYm1)	180	192	0
2023-24 (CAYm2)	120	126	0

Average [(ER1 + ER2 + ER3) / 3] = 103.52 $\equiv$ 100

Assessment : 20.00

4.2 Success Rate of the Students in the Stipulated Period of the Program (15)

Table No.4.2.1: The success rate in the stipulated period of a program.

Item
A*= (No. of students admitted in the 1st year of that batch and those actually admitted in the 2nd year via lateral entry, plus the number of students admitted through multiple entry and exit points, minus the number of students who exited through multiple entry (if any).
B=No. of students who graduated from the program in the stipulated course duration
Success Rate (SR)= (B/A) * 100

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 95.32

SR Points : 14.30

Note *: If the value of A in Table No. 4.2.1 is less than the sum of the sanctioned intake (N) and the lateral entry including leftover seats (N2), then the value of A in Table No. 4.2.1 is the sum of the sanctioned intake (N) and the lateral entry including leftover seats (N2).

4.3 Academic Performance of the First-Year Students of the Program (10)**Table No.4.3.1: Academic Performance of the First-Year Students of the Program.**

Academic Performance
X=(Mean of 1st year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 1st year/10)
Y=Total no. of successful students
Z=Total no. of students appeared in the examination
API $[X*(Y/Z)]$

Average API[(AP1+AP2+AP3)/3] : 7.40

Assessment = Average API : 7.40

4.4 Academic Performance of the Second Year Students of the Program (10)**Table No.4.4.1: Academic Performance of the Second Year Students of the Program.**

Academic Performance	C.
X=(Mean of 2nd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 2nd year/10)	7
Y=Total no. of successful students	1
Z=Total no. of students appeared in the examination	1
API $[X * (Y/Z)]$	7

Average API [(AP1 + AP2 + AP3)/3] : 7.46

Assessment [AverageAPI] : 7.46

4.5 Academic Performance of the Third Year Students of the Program (10)**Table No.4.5.1: Academic Performance of the Third Year Students of the Program**

Academic Performance	C.
X=(Mean of 3rd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 3rd year/10)	7
Y=Total no. of successful students	1
Z=Total no. of students appeared in the examination	1
API $[X*(Y/Z)]$:	7

Average API [(AP1 + AP2 + AP3)/3] : 7.60

Assessment [1.5 * AverageAPI] : 7.60

4.6 Placement, Higher Studies and Entrepreneurship (30)**Table No. 4.6.1: Placement, higher studies, and entrepreneurship details.**

Item	LYG (2021-22)	LYGm1(2020-21)
FS*=Total no. of final year students	134.00	144.00
X=No. of students placed	75.00	88.00
Y=No. of students admitted to higher studies	3.00	4.00
Z= No. of students taking up entrepreneurship	0.00	1.00
Placement Index(P) = $((X + Y + Z)/FS) * 100$:	58.21	64.58

Average Placement Index = $(P_1 + P_2 + P_3)/3$: 67.83

Placement Index Points: 20.35

4.7 Professional Activities (25)

4.7.1 Professional Societies/ Bodies, Chapters, Clubs, and Professional Engineering Events Organized (5)**Table No. 4.7.1.1: List of active professional societies/bodies/chapters/clubs.**

S.No	Name of the Professional Societies/Bodies, Chapters, Clubs
1	ACM
2	CSI
3	IEI
4	IEEE

Table No. 4.7.1.2: List of events/programs organized.**(CAYm1) 2024-25**

S.No	Name of the Professional Societies/Bodies, Chapters, Clubs	Name of the Event
1	ACM	CODEVOX-24: The Ultimate Coding Showdown
2	ACM	CODEVOX-24: The Ultimate Coding Showdown

(CAYm2) 2023-24

S.No	Name of the Professional Societies/Bodies, Chapters, Clubs	Name of the Event
1	ACM	An Industry-Academia Interaction Seminar on "The Science of Cyber Security and its Future Ch
2	ACM	DEV SCULPT INNOVATHON: A web development competition with in the college organized by (
3	ACM	DEV SCULPT INNOVATHON: A web development competition with in the college organized by (
4	ACM	Open Quiz Competetion
5	ACM	Revolutionizing Healthcare with Bioinformatics and Probabilistic ML

(CAYm3) 2022-23

S.No	Name of the Professional Societies/Bodies, Chapters, Clubs	Name of the Event
1	ACM	ACM Student Chapter Inauguration Ceremony
2	ACM	Matlab Hands -On Workshop
3	ACM	Invited Talk on Supply Chain Management2030
4	ACM	FDP on "Fast Emerging Research Domain for Future Trends of Advanced Computatio

4.7.2 Student's Participations in Professional Events (10)

**Table No. 4.7.2.1: List of students participated in professional events.
(CAYm1) 2024-25**

S.No	Name of the Student	Name of the Event	State /State /National/International level
1	ARNAB GHOSH	CODEVOX-24: The Ultimate Coding Showdown	National
2	SUJOY GARAI	CODEVOX-24: The Ultimate Coding Showdown	National
3	SUJOY GARAI	CODEVOX-24: The Ultimate Coding Showdown	National
4	KRISHAN SARKAR	CODEVOX-24: The Ultimate Coding Showdown	National
5	AYON PAUL	CODEVOX-24: The Ultimate Coding Showdown	National
6	MARMA BISWAS	CODEVOX-24: The Ultimate Coding Showdown	National
7	ANINDITA DUTTA	CODEVOX-24: The Ultimate Coding Showdown	National
8	NIRNIT ROY	CODEVOX-24: The Ultimate Coding Showdown	National
9	MANISH KUMAR MAJI	CODEVOX-24: The Ultimate Coding Showdown	National
10	AYAN MAZUMDAR	CODEVOX-24: The Ultimate Coding Showdown	National
11	SUPREME DEY	CODEVOX-24: The Ultimate Coding Showdown	National
12	ARITRAJIT GUHA	CODEVOX-24: The Ultimate Coding Showdown	National
13	AYANTIKA MONDAL	CODEVOX-24: The Ultimate Coding Showdown	National
14	ARCHAK KHANDAYIT	CODEVOX-24: The Ultimate Coding Showdown	National
15	BISWAJIT PAL	CODEVOX-24: The Ultimate Coding Showdown	National
16	SANGRAMJIT BAKSI	CODEVOX-24: The Ultimate Coding Showdown	National
17	SHUBHAM KUMAR	CODEVOX-24: The Ultimate Coding Showdown	National
18	DEBASIS MAHATA	CODEVOX-24: The Ultimate Coding Showdown	National
19	ARNAB GHOSH	CODEVOX-24: The Ultimate Coding Showdown	National
20	SUJOY GARAI	CODEVOX-24: The Ultimate Coding Showdown	National
21	SUJOY GARAI	CODEVOX-24: The Ultimate Coding Showdown	National
22	KRISHAN SARKAR	CODEVOX-24: The Ultimate Coding Showdown	National
23	AYON PAUL	CODEVOX-24: The Ultimate Coding Showdown	National
24	MARMA BISWAS	CODEVOX-24: The Ultimate Coding Showdown	National
25	ANINDITA DUTTA	CODEVOX-24: The Ultimate Coding Showdown	National
26	NIRNIT ROY	CODEVOX-24: The Ultimate Coding Showdown	National
27	MANISH KUMAR MAJI	CODEVOX-24: The Ultimate Coding Showdown	National
28	AYAN MAZUMDAR	CODEVOX-24: The Ultimate Coding Showdown	National
29	SUPREME DEY	CODEVOX-24: The Ultimate Coding Showdown	National
30	ARITRAJIT GUHA	CODEVOX-24: The Ultimate Coding Showdown	National
31	AYANTIKA MONDAL	CODEVOX-24: The Ultimate Coding Showdown	National
32	ARCHAK KHANDAYIT	CODEVOX-24: The Ultimate Coding Showdown	National
33	BISWAJIT PAL	CODEVOX-24: The Ultimate Coding Showdown	National
34	SANGRAMJIT BAKSI	CODEVOX-24: The Ultimate Coding Showdown	National
35	SHUBHAM KUMAR	CODEVOX-24: The Ultimate Coding Showdown	National
36	DEBASIS MAHATA	CODEVOX-24: The Ultimate Coding Showdown	National
37	ADITYA RAJ	Internal Hackathon 2024	State
38	ARIJIT KONER	Internal Hackathon 2024	State
39	ARNAB GHOSH	Internal Hackathon 2024	State
40	ARPAN SETH	Internal Hackathon 2024	State
41	ARPIT MISHRA	Internal Hackathon 2024	State
42	AYUSH RAJ	Internal Hackathon 2024	State
43	KUMAR HRISHAV	Internal Hackathon 2024	State
44	NANDINI PANDEY	Internal Hackathon 2024	State
45	NIRNIT ROY	Internal Hackathon 2024	State
46	PRITAM KUMAR	Internal Hackathon 2024	State
47	SAYON GHOSH	Internal Hackathon 2024	State
48	SNEHA ROY	Internal Hackathon 2024	State
49	SOUMI DAS	Internal Hackathon 2024	State

50	SOUNAK MOITRA	Internal Hackathon 2024	State
51	SOUVIK GOSWAMI	Internal Hackathon 2024	State
52	SUBHADEEP MUKHERJEE	Internal Hackathon 2024	State
53	SUBHANKAR DAS	Internal Hackathon 2024	State
54	SUBHAYU	Internal Hackathon 2024	State
55	VARAD SANJAY PAWAR	Internal Hackathon 2024	State

(CAYm2) 2023-24

S.No	Name of the Student	Name of the Event	St
1	RIMA GORAI	An Industry-Academia Interaction Seminar on "The Science of Cyber Security and its Future Challenges"	Ne
2	GOKUL PAL	An Industry-Academia Interaction Seminar on "The Science of Cyber Security and its Future Challenges"	Ne
3	ARPAN SETH	An Industry-Academia Interaction Seminar on "The Science of Cyber Security and its Future Challenges"	Ne
4	RAHUL KARMAKAR	An Industry-Academia Interaction Seminar on "The Science of Cyber Security and its Future Challenges"	Ne
5	SOUMYADEEP GANGULY	DEV SCULPT INNOVATHON: A web development competition with in the college organized by CSI Members BCREC.	Ne
6	SOUMYAJIT SAHA	DEV SCULPT INNOVATHON: A web development competition with in the college organized by CSI Members BCREC.	Ne
7	ADITI CHATTERJEE	DEV SCULPT INNOVATHON: A web development competition with in the college organized by CSI Members BCREC.	Ne
8	NANDINI PANDEY	DEV SCULPT INNOVATHON: A web development competition with in the college organized by CSI Members BCREC.	Ne
9	ARIJIT KONAR	DEV SCULPT INNOVATHON: A web development competition with in the college organized by CSI Members BCREC.	Ne
10	ARYAN REDDY	DEV SCULPT INNOVATHON: A web development competition with in the college organized by CSI Members BCREC.	Ne
11	CHOUDHURY KAIZAR AKTAR	DEV SCULPT INNOVATHON: A web development competition with in the college organized by CSI Members BCREC.	Ne
12	UPASANA GHOSH	DEV SCULPT INNOVATHON: A web development competition with in the college organized by CSI Members BCREC.	Ne
13	TITIKSHA DALAL	DEV SCULPT INNOVATHON: A web development competition with in the college organized by CSI Members BCREC.	Ne
14	AMRITA MANDAL	DEV SCULPT INNOVATHON: A web development competition with in the college organized by CSI Members BCREC.	Ne
15	SOUMYADITYA BAURI	DEV SCULPT INNOVATHON: A web development competition with in the college organized by CSI Members BCREC.	Ne
16	SOUMYADEEP GANGULY	DEV SCULPT INNOVATHON: A web development competition with in the college organized by CSI Members BCREC.	Ne
17	SOUMYAJIT SAHA	DEV SCULPT INNOVATHON: A web development competition with in the college organized by CSI Members BCREC.	Ne
18	ADITI CHATTERJEE	DEV SCULPT INNOVATHON: A web development competition with in the college organized by CSI Members BCREC.	Ne
19	NANDINI PANDEY	DEV SCULPT INNOVATHON: A web development competition with in the college organized by CSI Members BCREC.	Ne
20	ARIJIT KONAR	DEV SCULPT INNOVATHON: A web development competition with in the college organized by CSI Members BCREC.	Ne
21	ARYAN REDDY	DEV SCULPT INNOVATHON: A web development competition with in the college organized by CSI Members BCREC.	Ne
22	CHOUDHURY KAIZAR AKTAR	DEV SCULPT INNOVATHON: A web development competition with in the college organized by CSI Members BCREC.	Ne
23	UPASANA GHOSH	DEV SCULPT INNOVATHON: A web development competition with in the college organized by CSI Members BCREC.	Ne
24	TITIKSHA DALAL	DEV SCULPT INNOVATHON: A web development competition with in the college organized by CSI Members BCREC.	Ne
25	AMRITA MANDAL	DEV SCULPT INNOVATHON: A web development competition with in the college organized by CSI Members BCREC.	Ne
26	SOUMYADITYA BAURI	DEV SCULPT INNOVATHON: A web development competition with in the college organized by CSI Members BCREC.	Ne
27	PRITHIB NANDI	Open Quiz Competetion	Ne
28	SAGAR DUTTA	Open Quiz Competetion	Ne
29	TUHIN CHAKRABARTY	Open Quiz Competetion	Ne
30	SUPREME DEY	Open Quiz Competetion	Ne
31	KAUSHANI KONER	Open Quiz Competetion	Ne
32	SWETAB BARNWAI	Open Quiz Competetion	Ne
33	MANISH KUMAR MAJI	Open Quiz Competetion	Ne
34	BISWAJIT PAL	Open Quiz Competetion	Ne
35	DIPANWITA PODDAR	Open Quiz Competetion	Ne
36	RAKESH RAUSHAN	Open Quiz Competetion	Ne
37	ARPAN SETH	Open Quiz Competetion	Ne
38	RAHUL KARMAR	Open Quiz Competetion	Ne
39	ESHITA UPADHYAY	Open Quiz Competetion	Ne
40	ARCHAK KHANDYIT	Open Quiz Competetion	Ne
41	SANJANA KARMAKAR	Open Quiz Competetion	Ne
42	SHANTU GHOSH	Open Quiz Competetion	Ne
43	ANUP DAS	Open Quiz Competetion	Ne
44	PIYUSH KUMAR DEY	Open Quiz Competetion	Ne
45	NISHANT MISHRA	Open Quiz Competetion	Ne
46	DIPANWITA PODDAR	Revolutionizing Healthcare with Bioinformatics and Probabilistic ML	Ne
47	SUBHAJIT MONDAL	Revolutionizing Healthcare with Bioinformatics and Probabilistic ML	Ne
48	ANKITA KONER	Revolutionizing Healthcare with Bioinformatics and Probabilistic ML	Ne
49	MANIKA SARKAR	Revolutionizing Healthcare with Bioinformatics and Probabilistic ML	Ne

50	RAHUL KARMAKAR	Revolutionizing Healthcare with Bioinformatics and Probabilistic ML	N€
51	ARPAN SETH	Revolutionizing Healthcare with Bioinformatics and Probabilistic ML	N€
52	SHREYAK MUKHERJEE	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
53	TULIKA DUTTA	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
54	TRISHA KABIRAJ	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
55	RAKESH RAUSHAN	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
56	SOMESH MONDAL	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
57	SOUVIK GOSWAMI	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
58	SOUMYADEEP GANGULY	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
59	SUBHAYU DUTTA	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
60	UPASANA GHOSH	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
61	SABYASACHI GANGABASI	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
62	SAIKAT SAHA	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
63	SOUMYADITYA BAURI	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
64	SUBHADEEP MUKHERJEE	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
65	SHREYAK MUKHERJEE	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
66	TULIKA DUTTA	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
67	TRISHA KABIRAJ	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
68	RAKESH RAUSHAN	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
69	SOMESH MONDAL	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
70	SOUVIK GOSWAMI	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
71	SOUMYADEEP GANGULY	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
72	SUBHAYU DUTTA	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
73	UPASANA GHOSH	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
74	SABYASACHI GANGABASI	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
75	SAIKAT SAHA	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
76	SOUMYADITYA BAURI	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€
77	SUBHADEEP MUKHERJEE	Internal Hackathon to Prepare for Smart India Hackathon 2023	N€

(CAYm3) 2022-23

S.No	Name of the Student	Name of the Event	State /National
1	SNEHA LAHIRI	ACM Student Chapter Inauguration Ceremony	National
2	SAGNIK SANYAL	ACM Student Chapter Inauguration Ceremony	National
3	MEGHA KESH	ACM Student Chapter Inauguration Ceremony	National
4	RAKESH RAUSHAN	ACM Student Chapter Inauguration Ceremony	National
5	SHREYA ROY	ACM Student Chapter Inauguration Ceremony	National
6	MONICA SARKAR	ACM Student Chapter Inauguration Ceremony	National
7	RAJASHWARI DAS	ACM Student Chapter Inauguration Ceremony	National
8	KOUSHIKI CHAKARBORTY	ACM Student Chapter Inauguration Ceremony	National
9	SURVI MUKHERJEE	ACM Student Chapter Inauguration Ceremony	National
10	SONAI KESH	ACM Student Chapter Inauguration Ceremony	National
11	SABYACHI GANGABASI	ACM Student Chapter Inauguration Ceremony	National
12	SUMAN AKULI	ACM Student Chapter Inauguration Ceremony	National
13	SOUMYAJIT KHAN	ACM Student Chapter Inauguration Ceremony	National
14	SOURIK BOSE	ACM Student Chapter Inauguration Ceremony	National
15	ARYAN REDDY	ACM Student Chapter Inauguration Ceremony	National
16	BISWARUP DUTTA	ACM Student Chapter Inauguration Ceremony	National
17	SOMESH MONDAL	ACM Student Chapter Inauguration Ceremony	National
18	ANISH KONER	ACM Student Chapter Inauguration Ceremony	National
19	CHAND MONDAL	ACM Student Chapter Inauguration Ceremony	National
20	ANINDITA ROY	ACM Student Chapter Inauguration Ceremony	National
21	ARPAN SETH	ACM Student Chapter Inauguration Ceremony	National
22	ARNAB GUHA	ACM Student Chapter Inauguration Ceremony	National
23	SOURIK NANDI	ACM Student Chapter Inauguration Ceremony	National
24	SOUVIK BANERJEE	ACM Student Chapter Inauguration Ceremony	National
25	ANTARA GUCHAIT	ACM Student Chapter Inauguration Ceremony	National
26	ARYAN GUPTA	ACM Student Chapter Inauguration Ceremony	National
27	RAVI KUMAR	ACM Student Chapter Inauguration Ceremony	National
28	NITI RAJ	ACM Student Chapter Inauguration Ceremony	National
29	SOUVIK CHOWDHURY	ACM Student Chapter Inauguration Ceremony	National
30	ANWIKA SINGH	ACM Student Chapter Inauguration Ceremony	National
31	SOAURAB MANJEE	ACM Student Chapter Inauguration Ceremony	National
32	JOYDEV SARKHEL	ACM Student Chapter Inauguration Ceremony	National
33	ASISH KUMAR	ACM Student Chapter Inauguration Ceremony	National
34	HARSH RAJ KUMAR	ACM Student Chapter Inauguration Ceremony	National
35	SRIJAN KUMAR PANDEY	ACM Student Chapter Inauguration Ceremony	National
36	SHIVAM KUMAR	ACM Student Chapter Inauguration Ceremony	National
37	ABHIJAY CHOWHAN	ACM Student Chapter Inauguration Ceremony	National
38	AMAN KUMAR	ACM Student Chapter Inauguration Ceremony	National
39	ADARSH KUMAR	ACM Student Chapter Inauguration Ceremony	National
40	SOURABH KUMAR	ACM Student Chapter Inauguration Ceremony	National
41	ANJALI KUMARI	ACM Student Chapter Inauguration Ceremony	National
42	ARPANA KUMARI	ACM Student Chapter Inauguration Ceremony	National
43	AGNISH KUMAR	ACM Student Chapter Inauguration Ceremony	National
44	PAMELA MAJUMDER	ACM Student Chapter Inauguration Ceremony	National
45	MONISHA KUMARI PRASHAD	ACM Student Chapter Inauguration Ceremony	National
46	ANEEL MAITY	ACM Student Chapter Inauguration Ceremony	National
47	SAYLE CHOWDHURY	ACM Student Chapter Inauguration Ceremony	National
48	ARUNIMA MAJUMDER	ACM Student Chapter Inauguration Ceremony	National
49	MEERAJ HOSSAIN	ACM Student Chapter Inauguration Ceremony	National

50	PRIYANSHU DEBNATH	ACM Student Chapter Inauguration Ceremony	National
51	RAMKRISHNA MODAK	ACM Student Chapter Inauguration Ceremony	National
52	ISHIKA PANJA	ACM Student Chapter Inauguration Ceremony	National
53	SAYAN MONDAL	ACM Student Chapter Inauguration Ceremony	National
54	PRAPTI NAG	ACM Student Chapter Inauguration Ceremony	National
55	ANUSHA CHANDA	ACM Student Chapter Inauguration Ceremony	National
56	SOUMYA RAJ	ACM Student Chapter Inauguration Ceremony	National
57	MD. IRFAN KHAN	ACM Student Chapter Inauguration Ceremony	National
58	DEBARUN DAS	ACM Student Chapter Inauguration Ceremony	National
59	ABHINASH KUMAR	ACM Student Chapter Inauguration Ceremony	National
60	SOURABH THAKUR	ACM Student Chapter Inauguration Ceremony	National
61	BISHWAJEET SINGH	ACM Student Chapter Inauguration Ceremony	National
62	DEBLEENA MAITY	ACM Student Chapter Inauguration Ceremony	National
63	AYUSH KUMAR DEY	ACM Student Chapter Inauguration Ceremony	National
64	NISHANT MISHRA	ACM Student Chapter Inauguration Ceremony	National
65	SUMIR BARNWAL	ACM Student Chapter Inauguration Ceremony	National
66	KUMAR HRISHAV	ACM Student Chapter Inauguration Ceremony	National
67	AKASH GHOSH	ACM Student Chapter Inauguration Ceremony	National
68	SWATI DUBEY	ACM Student Chapter Inauguration Ceremony	National
69	PRERNA BOSHAK	ACM Student Chapter Inauguration Ceremony	National
70	SOUMYADEEP GANGULY	ACM Student Chapter Inauguration Ceremony	National
71	UPASANA GHOSH	ACM Student Chapter Inauguration Ceremony	National
72	ISHIKA DALAL	ACM Student Chapter Inauguration Ceremony	National
73	ITIKSHA DALAL	ACM Student Chapter Inauguration Ceremony	National
74	VARD PAWAR	ACM Student Chapter Inauguration Ceremony	National
75	SOMYADITYA BAWRI	ACM Student Chapter Inauguration Ceremony	National
76	SANDEEP PAUL	ACM Student Chapter Inauguration Ceremony	National
77	ANKITA GANGULI	ACM Student Chapter Inauguration Ceremony	National
78	ROHIT YADAV	ACM Student Chapter Inauguration Ceremony	National
79	NITESH KRISHNA	ACM Student Chapter Inauguration Ceremony	National
80	PRIYANSHU DEBNATH	Matlab Hands -On Workshop	National
81	SAIKAT KARMAKAR	Matlab Hands -On Workshop	National
82	SURAJ KANTI SINGHA	Matlab Hands -On Workshop	National
83	TOUFIK UMAR SEKH	Matlab Hands -On Workshop	National
84	SAMADRITA SINHA	Matlab Hands -On Workshop	National
85	ANKITA KONAR	Matlab Hands -On Workshop	National
86	SAYAN MONDAL	Matlab Hands -On Workshop	National
87	SUMAN CHOWDHURY	Matlab Hands -On Workshop	National
88	SAYAN KUMAR DHAR	Matlab Hands -On Workshop	National
89	SOUNAK MOITRA	Matlab Hands -On Workshop	National
90	MERAJ HUSSAIN	Matlab Hands -On Workshop	National
91	RAMKRISHNA MODAK	Matlab Hands -On Workshop	National
92	ARPAN SETH	Matlab Hands -On Workshop	National
93	RAHUL KARMAKAR	Matlab Hands -On Workshop	National
94	ARKAPRIYA SINHA	Matlab Hands -On Workshop	National
95	DEBRIK CHAKRABORTY	Matlab Hands -On Workshop	National
96	ANKITA SAHA	Matlab Hands -On Workshop	National
97	TRISHA KABIRAJ	Matlab Hands -On Workshop	National
98	MUKULIKA CHATTERJEE	Matlab Hands -On Workshop	National
99	SAYANTANI CHATTERJEE	Matlab Hands -On Workshop	National

100	ADITI CHATTERJEE	Matlab Hands -On Workshop	National
101	NARENDRA SINGH	Matlab Hands -On Workshop	National
102	KETOKI MAITY	Matlab Hands -On Workshop	National
103	DEBJEET MUKHERJEE	Matlab Hands -On Workshop	National
104	GARBITA GHOSH	Matlab Hands -On Workshop	National
105	PALLABI MUKHERJEE	Matlab Hands -On Workshop	National
106	ANISHA PAUL	Matlab Hands -On Workshop	National
107	TUHIN MODAK	Matlab Hands -On Workshop	National
108	ESHITA UPADHYAY	Matlab Hands -On Workshop	National
109	RIYA DUTTA	Matlab Hands -On Workshop	National
110	ABHINAB MONDAL	Matlab Hands -On Workshop	National
111	ARPAN SETH	Matlab Hands -On Workshop	National
112	SUBHAJIT MONDAL	Matlab Hands -On Workshop	National
113	SOUMYAJIT KHAN	Matlab Hands -On Workshop	National
114	SOHAM DUTTA	Matlab Hands -On Workshop	National
115	LOPA MONDAL	Matlab Hands -On Workshop	National
116	DIPANWITA PODDAR	Matlab Hands -On Workshop	National
117	SOURIK NANDY	Matlab Hands -On Workshop	National
118	RAHUL KARMAKAR	Matlab Hands -On Workshop	National
119	SHIVAM KUMAR	Matlab Hands -On Workshop	National
120	CHAND MONDAL	Matlab Hands -On Workshop	National
121	TULIKA DUTTA	Matlab Hands -On Workshop	National
122	ASHISH KUMAR	Matlab Hands -On Workshop	National
123	NISHANT KUMAR	Matlab Hands -On Workshop	National
124	ANEEL MAITY	Matlab Hands -On Workshop	National
125	KUMAR HRISHAV	Matlab Hands -On Workshop	National
126	PAMELA MAJUMDAR	Matlab Hands -On Workshop	National
127	DEBLEENA MAITY	Matlab Hands -On Workshop	National
128	PIYUSH KUMAR DEY	Matlab Hands -On Workshop	National
129	MANIKA SARKAR	Matlab Hands -On Workshop	National
130	GOKUL PAL	Matlab Hands -On Workshop	National
131	RIMA GORAI	Matlab Hands -On Workshop	National
132	VARAD PAWAR	Matlab Hands -On Workshop	National
133	SOUVIK BANERJEE	Matlab Hands -On Workshop	National
134	RAVI KUMAR	Invited Talk on Supply Chain Management 2030	National
135	SUBHAJIT MONDAL	Invited Talk on Supply Chain Management 2030	National
136	ARPAN SETH	Invited Talk on Supply Chain Management 2030	National
137	RAHUL KARMAKAR	Invited Talk on Supply Chain Management 2030	National
138	NITESH KUMAR SINHA	Invited Talk on Supply Chain Management 2030	National
139	RAKESH RAUSHAN	Invited Talk on Supply Chain Management 2030	National
140	ARNAB GUHA	Invited Talk on Supply Chain Management 2030	National
141	DEBARATI THAKUR	Invited Talk on Supply Chain Management 2030	National
142	RIMA GORAI	Invited Talk on Supply Chain Management 2030	National
143	TULIKA DUTTA	Invited Talk on Supply Chain Management 2030	National
144	SURVI MUKHERJEE	Invited Talk on Supply Chain Management 2030	National
145	SAMADRITA SINHA	Invited Talk on Supply Chain Management 2030	National
146	ASESH ROY	Invited Talk on Supply Chain Management 2030	National
147	DISHA BHATTACHARYA	Invited Talk on Supply Chain Management 2030	National
148	SUMAN AKHULI	Invited Talk on Supply Chain Management 2030	National
149	SOURIK BOSE	Invited Talk on Supply Chain Management 2030	National

150	RAVI KUMAR	Invited Talk on Supply Chain Management 2030	National
151	SHREYA ROY	Invited Talk on Supply Chain Management 2030	National
152	HIMADRI CHANDRA	Invited Talk on Supply Chain Management 2030	National
153	SOUMAK HALDER	Invited Talk on Supply Chain Management 2030	National
154	KUMAR HRISHAV	Invited Talk on Supply Chain Management 2030	National
155	SURAJ KANTI SINGHA	Invited Talk on Supply Chain Management 2030	National
156	SOMESH MONDAL	Invited Talk on Supply Chain Management 2030	National
157	SAIKAT KARMAKAR	Invited Talk on Supply Chain Management 2030	National
158	ANKITA KONAR	Invited Talk on Supply Chain Management 2030	National
159	SUMIT LAHA	Invited Talk on Supply Chain Management 2030	National
160	ANKAN CHATTERJEE	Invited Talk on Supply Chain Management 2030	National
161	PRAPTI NAG	Invited Talk on Supply Chain Management 2030	National
162	RAHUL KUSHWAHA	Invited Talk on Supply Chain Management 2030	National
163	GOKUL PAL	Invited Talk on Supply Chain Management 2030	National
164	ANANYA BANERJEE	Invited Talk on Supply Chain Management 2030	National
165	AMRITA MANDAL	Invited Talk on Supply Chain Management 2030	National
166	JAYANT KUMAR KALINDI	Invited Talk on Supply Chain Management 2030	National
167	AMRITA MANDAL	Invited Talk on Supply Chain Management 2030	National
168	SOUMEN NANDI	Invited Talk on Supply Chain Management 2030	National
169	PIYUSH RAJ AGARWAL	Invited Talk on Supply Chain Management 2030	National
170	SIDDHARTHA PAL	Invited Talk on Supply Chain Management 2030	National
171	BISHAL KARMAKAR	Invited Talk on Supply Chain Management 2030	National
172	PANKAJ KUMAR RAWANI	Invited Talk on Supply Chain Management 2030	National
173	DHIMAN KUMAR MAHATO	Invited Talk on Supply Chain Management 2030	National
174	ARITRA SAMUI	Invited Talk on Supply Chain Management 2030	National
175	CHAND MONDAL	Invited Talk on Supply Chain Management 2030	National
176	AANYA SINHA	Invited Talk on Supply Chain Management 2030	National
177	TRISHNA BHATTACHARJEE	Invited Talk on Supply Chain Management 2030	National
178	AINDRILA ROY	Invited Talk on Supply Chain Management 2030	National
179	SOUVIK BANERJEE	Invited Talk on Supply Chain Management 2030	National
180	ANIJIT DIGAR	Invited Talk on Supply Chain Management 2030	National
181	RAJIB PRAMANIK	Invited Talk on Supply Chain Management 2030	National
182	VARAD PAWAR	Invited Talk on Supply Chain Management 2030	National
183	TITIKSHA DALAL	Invited Talk on Supply Chain Management 2030	National
184	YASH RAJ	Invited Talk on Supply Chain Management 2030	National
185	UPASANA GHOSH	Invited Talk on Supply Chain Management 2030	National
186	ADITYA PRATAP SINGH	Invited Talk on Supply Chain Management 2030	National
187	SAYAN MONDAL	Invited Talk on Supply Chain Management 2030	National
188	MANIKA SARKAR	Invited Talk on Supply Chain Management 2030	National
189	TOUFIK UMAR SEKH	Invited Talk on Supply Chain Management 2030	National
190	PRADIP CHATTERJEE	Invited Talk on Supply Chain Management 2030	National
191	SNEHA CHAND	Invited Talk on Supply Chain Management 2030	National
192	TOUFIK UMAR SEKH	Invited Talk on Supply Chain Management 2030	National
193	AVIRUP MUKHERJEE	Invited Talk on Supply Chain Management 2030	National
194	JOYDEEP MALLICK	Invited Talk on Supply Chain Management 2030	National
195	AVINAV CHATTERJEE	Invited Talk on Supply Chain Management 2030	National
196	RIMA GORAI	Invited Talk on Supply Chain Management 2030	National
197	GOKUL PAL	Invited Talk on Supply Chain Management 2030	National
198	RAKESH RAUSHAN	Invited Talk on Supply Chain Management 2030	National
199	SABYASACHI GANGABASI	Invited Talk on Supply Chain Management 2030	National

200	ANIJIT DIGAR	Invited Talk on Supply Chain Management 2030	National
201	PRADIP CHATTERJEE	Invited Talk on Supply Chain Management 2030	National
202	ARYAN REDDY	Invited Talk on Supply Chain Management 2030	National
203	SONAI KESH	Invited Talk on Supply Chain Management 2030	National
204	DISHA BHATTACHARYA	Invited Talk on Supply Chain Management 2030	National
205	SOUMYAJIT SAHA	Invited Talk on Supply Chain Management 2030	National
206	SOUMYAJIT KHAN	Invited Talk on Supply Chain Management 2030	National
207	SOHAM DUTTA	Invited Talk on Supply Chain Management 2030	National
208	LOPA MONDAL	Invited Talk on Supply Chain Management 2030	National
209	SOURIK BOSE	Invited Talk on Supply Chain Management 2030	National
210	ARNAB GUHA	Invited Talk on Supply Chain Management 2030	National
211	SOURIK NANDY	Invited Talk on Supply Chain Management 2030	National
212	ABHINAB MONDAL	Invited Talk on Supply Chain Management 2030	National
213	MANIKA SARKAR	Invited Talk on Supply Chain Management 2030	National
214	SURVI MUKHERJEE	Invited Talk on Supply Chain Management 2030	National
215	ARPAN DEY	Invited Talk on Supply Chain Management 2030	National
216	AMRITA MANDAL	Invited Talk on Supply Chain Management 2030	National
217	SOUMEN NANDI	Invited Talk on Supply Chain Management 2030	National
218	SOMESH MONDAL	Invited Talk on Supply Chain Management 2030	National
219	ANANYA BANERJEE	Invited Talk on Supply Chain Management 2030	National
220	SANDIP PAUL	Invited Talk on Supply Chain Management 2030	National
221	ANIRBAN MUKHERJEE	Invited Talk on Supply Chain Management 2030	National
222	SOUMYADITYA BAURI	Invited Talk on Supply Chain Management 2030	National
223	SHIVWANGI BANERJEE	Invited Talk on Supply Chain Management 2030	National
224	HIMADRI CHANDRA	Invited Talk on Supply Chain Management 2030	National
225	RIJIT CHATTERJEE	Invited Talk on Supply Chain Management 2030	National
226	SUMANA CHOWDHURY	Invited Talk on Supply Chain Management 2030	National
227	SAIKAT KARMAKAR	Invited Talk on Supply Chain Management 2030	National
228	ARITRA KESH	Invited Talk on Supply Chain Management 2030	National
229	DIPANWITA PODDAR	Invited Talk on Supply Chain Management 2030	National
230	SHRUTI GUPTA	Invited Talk on Supply Chain Management 2030	National
231	MONALISA CHAKRABORTY	Invited Talk on Supply Chain Management 2030	National
232	AYUSH PRASAD	Invited Talk on Supply Chain Management 2030	National
233	ANUSHA CHANDA	Invited Talk on Supply Chain Management 2030	National
234	GAYANDIP LAYEK	Invited Talk on Supply Chain Management 2030	National
235	SORABH KUMAR	Invited Talk on Supply Chain Management 2030	National
236	SOUMEN NANDI	Invited Talk on Supply Chain Management 2030	National
237	RAJESHWARI DAS	Invited Talk on Supply Chain Management 2030	National
238	BARUN KUMAR SINGH	Invited Talk on Supply Chain Management 2030	National
239	MIMO PATRA	Invited Talk on Supply Chain Management 2030	National
240	SAIKAT GHOSH	Invited Talk on Supply Chain Management 2030	National
241	KUMAR MAYANK	Invited Talk on Supply Chain Management 2030	National
242	PAMELA MAJUMDAR	Invited Talk on Supply Chain Management 2030	National
243	SUHANI SINGHA	Invited Talk on Supply Chain Management 2030	National
244	SOUMI GHOSH	Invited Talk on Supply Chain Management 2030	National
245	RAMKRISHNA MODAK	Invited Talk on Supply Chain Management 2030	National
246	ANEEK MAITY	Invited Talk on Supply Chain Management 2030	National
247	PRIYANSHU DEBNATH	Invited Talk on Supply Chain Management 2030	National
248	MERAJ HUSSAIN	Invited Talk on Supply Chain Management 2030	National
249	PIYUSH KUMAR DEY	Invited Talk on Supply Chain Management 2030	National

250	DEBLEENA MAITY	Invited Talk on Supply Chain Management 2030	National
251	PIYUSH KUMAR DEY	Invited Talk on Supply Chain Management 2030	National
252	ARUNIMA MAZUMDER	Invited Talk on Supply Chain Management 2030	National
253	SOUVIK GOSWAMI	Invited Talk on Supply Chain Management 2030	National
254	SUMIT BURNWAL	Invited Talk on Supply Chain Management 2030	National
255	AINDRILA ROY	Invited Talk on Supply Chain Management 2030	National
256	RANIT KUMAR DEY	Invited Talk on Supply Chain Management 2030	National
257	ARINDAM KUNDU	Invited Talk on Supply Chain Management 2030	National
258	PRADIP CHATTERJEE	Invited Talk on Supply Chain Management 2030	National
259	MANISHA KUMARI PRASAD	Invited Talk on Supply Chain Management 2030	National
260	SOUVIK BANERJEE	Invited Talk on Supply Chain Management 2030	National
261	RAKESH RAUSHAN	Invited Talk on Supply Chain Management 2030	National
262	AKASH GHOSH	Invited Talk on Supply Chain Management 2030	National
263	DEBAJYOTI PUITANDY	FDP on "Fast Emerging Research Domain for Future Trends of Advanced Computation"	International
264	PRITY DAS	FDP on "Fast Emerging Research Domain for Future Trends of Advanced Computation"	International
265	JOYITA GHOSH	FDP on "Fast Emerging Research Domain for Future Trends of Advanced Computation"	International
266	SUMIT PAL	FDP on "Fast Emerging Research Domain for Future Trends of Advanced Computation"	International
267	RANGAN MUKHERJEE	FDP on "Fast Emerging Research Domain for Future Trends of Advanced Computation"	International
268	PARTHIB BANERJEE	FDP on "Fast Emerging Research Domain for Future Trends of Advanced Computation"	International
269	ASHISH KUMAR SAHA	FDP on "Fast Emerging Research Domain for Future Trends of Advanced Computation"	International
270	SONAL MODI	FDP on "Fast Emerging Research Domain for Future Trends of Advanced Computation"	International
271	PRATYUSHA AICH	FDP on "Fast Emerging Research Domain for Future Trends of Advanced Computation"	International

4.7.3 Publication of Journals, Magazines, Newsletters, etc. in the Department (5)

Table No. 4.7.3.1: List of students involved in publication of journals, magazines, and newsletters, etc. in the Department.

(CAYm1) 2024-25

S.No	Name of the Journal, Magazine, Newsletter	Name of the Editor	Name of the Student
1	Bits N Bytes (Departmental Technical Magazine)	Dr. Arindam Ghosh	Oishi Sen
2	TECH TRIBUNE (A newsletter by Department CSE)	Prof. (Dr.) Sumana Kundu, Prof. Joyjit Patra	SRESTHA KUNDU, BRISTI I

(CAYm2) 2023-24

S.No	Name of the Journal, Magazine, Newsletter	Name of the Editor	Name of the Student
1	Bits N Bytes (Departmental Technical Magazine)	Dr. Arindam Ghosh	Rangan Mukherjee
2	TECH TRIBUNE (A newsletter by Department CSE)	Prof. (Dr.) Sumana Kundu, Prof. Joyjit Patra	SOUMYADEEP GANGULY, LOPA

(CAYm3) 2022-23

S.No	Name of the Journal, Magazine, Newsletter	Name of the Editor	Name of the Student
1	Bits N Bytes (Departmental Technical Magazine)	Dr. Arindam Ghosh	Satyam Mahapatra
2	TECH TRIBUNE (A newsletter by Department CSE)	Prof. Rajib Kumar Mondal, Prof. Joyjit Patra	SHIVAM LODH, TRISHA KA

4.7.4 Student Publications (5)

**Table No. 4.7.4.1: List of student publications.
(CAYm1) 2024-25**

S.No	Name of the Paper	Name of the Student	Semester	Name of the Publisher	Name of the Journ
1	TinyBioGait—Embedded intelligence and homologous time approximation warping for gait biometric auth	Subhrangshu Adhikary	8	Elsevier	Smart Health
2	PrivLet: A differential privacy and inverse wavelet decomposition framework for secure and optimized	Subhrangshu Adhikary	8	Elsevier	Biomedical Signal P
3	CT-GANet: A Fusion of GAN and UNet for CT Image Segmentation of Interstitial Lung Disease Affected L	Sagnik Das	8	Springer Nature	Journal of The Instit
4	Prediction of GATE Examination Clearance for Fresh Graduate Candidates: An Advanced Machine Learning	Ayan Banerjee, Rachana Das, Puja Kumari, Ankita	8	Springer Nature (Springer Cham)	Advances in Machin (Proceedings of ICM
5	SensAKitchen: Contextualizing Kitchen Activities with IoT-Enabled Event Identification	Arnab Mukherjee, Rangan Mukherjee	8	IEEE (Institute of Electrical and Electronics Engineers)	2024 IEEE Internati Communication Tec
6	Assessment of Several Loss Functions and Optimization Strategies for Pneumonia Detection	Mithu Mal	4	SSRN (Elsevier)	SSRN Electronic Jo
7	Improving Alexa's response with sentiment analysis and comparing various machine learning models	Kalyan Maji, Mithu Mal	4	IEEE (Institute of Electrical and Electronics Engineers)	2024 International C Communication (ICC
8	NLP and ML for real-time sentiment analysis in Finance	Anindita Das	8	IEEE (Institute of Electrical and Electronics Engineers)	2024 IEEE Internati and Signal Processi
9	Evaluating Usability and Impact of IoT-Driven Sensor-Based Home Diagnostics	Sandipan Das	4	IEEE (Institute of Electrical and Electronics Engineers)	2024 International C Applications (DASA
10	Breast Cancer Classification Using Machine Learning: A Comprehensive Review and Analysis	Srijita Bhattacharyya, Soumi Badyaka	8	Springer Nature	Green Chemistry: P Development (Book Volume)
11	Analyzing Post-Shopping Facial Expressions: Unraveling Emotions for Enhanced Consumer Insights	Aiswarya Rana, Abhik Goswami, Sutanu Mazumder	8	Springer Nature	Book Chapter in: Ad edited volume
12	An Intelligent Disaster Management System: Integrating Technology for Effective Response and Recover	Nandini Pandey, Priya Rani	8	IEEE (Institute of Electrical and Electronics Engineers)	2025 IEEE Internati Advanced Computir
13	SensAKitchen: Contextualizing Kitchen Activities with IoT-Enabled Event Identification	Arnab Mukherjee, Rangan Mukherjee	8	IEEE (Institute of Electrical and Electronics Engineers)	2024 IEEE Internati Communication Tec
14	Compressive Sensing for IMU-based Gait Activity Assessment Using Discrete Wavelet Transform	Subhrangshu Adhikary	8	IEEE (Institute of Electrical and Electronics Engineers)	2024 IEEE Internati Communication Tec
15	Design of IoT-Based Smart Energy Meter for E-Billing and Prepaid Electricity	Sushmita Bhrahmachary	8	Springer Nature	Book Chapter in: Ad Volume (Chapter 22
16	Secured Home Automation with Voice Recognition Using ML and IoT Devices	Anisha Singha, Tanmoy Sural, Rishi Raj Pandey, Rohit Paul	8	IEEE (Institute of Electrical and Electronics Engineers)	2024 IEEE Internati Machine Intelligence
17	A Real-Time Machine Learning based Statistical Approach for Power Generation Prediction for Solar PV	Ayusman Maji, Rajdeep Saha, Pronoy Das Choudhury	8	Springer Nature	Book Chapter in: Ed (Springer edited vol
18	Advancing Lung Cancer Diagnosis and Prognosis through Machine Learning Algorithm	Soujatya Banerjee, Astom Mondal, Ranit Mondal	8	Springer Nature (Springer Cham)	Book Chapter in a S
19	Harvesting the future: smart farming system	Animikh Ghosh, Sukrit Basak, Md. Sehran Talib	8	CRC Press (Taylor & Francis Group)	Book Chapter (Chap
20	Plant Disease Detection Using Modern Deep Learning Approach: YOLOv7	Ayan Banerjee, Arkaprava Mazumder, Ayush Kumar Shaw	8	Springer Nature (Springer Cham)	Advances in Machin (Proceedings of ICM
21	Automated Reviewer Assignment Process Using Machine Learning Technique	Arkaprava Mazumder, Ayan Banerjee	8	Springer Nature (Springer Cham)	Advances in Machin (Proceedings of ICM
22	The Evolutionary Impact of Pattern Recognition in Research Applications: A Wide Spectrum Survey	Sumit Pal	8	Springer Nature (Springer Cham)	Advances in Machin (Proceedings of ICM
23	An IoT-Based Smart Tracking Application Integrated with Global Positioning System (GPS)	Ritika Chatterjee	8	Springer Nature (Springer Singapore)	Book Chapter in a S

(CAYm2) 2023-24

S.No	Name of the Paper	Name of the Student	Semester	Name of the Publisher	Name of the Journal/ Co
1	AUNet-MHA: An Attention U-Net based Multi-Head Self Attention for Lung Lesion Segmentation from CT I	Abhishek Kumar	4	Elsevier	Procedia Computer Scien
2	VIT-ILD: A Vision Transformer-based Neural Network for Detection of Interstitial Lung Disease from C	Abhishek Kumar	4	Elsevier	Procedia Computer Scien
3	Automated Bone Fracture Detection in X-ray Imaging to Improve Orthopaedic Diagnostics in Healthcare	Soumi Ghosh, JahiruddinMallick	8	Elsevier	Procedia Computer Scien
4	OccuCon: A Context-aware Environment Sensing Approach Towards Indoor Occupancy Estimation	Sumit Dhar, Saptarshi Ghosh, Abhik Mandal & 8th Sem	8	IEEE (Institute of Electrical and Electronics Engineers)	2024 IEEE International C Communication Technolog
5	Malicious Transaction URL Detection Using Logistic Regression	Aratrik Bose	8	Springer Nature (Springer Singapore)	Springer Edited Book (Bo
6	Storage and Organisation of Geospatial Data in Distributed Blockchain Using IPFS	Shivanshu Singh, AyushTah	8	Springer Nature (Springer Singapore)	Springer Edited Book (Bo
7	IoT applications detect still images and loop videos in real-time video conferences employing the hy	Ankit Raj Srivastava, Himesh Kumar Gauttam, PragatiSuman	8	CRC Press (Taylor & Francis Group)	Book / Edited Volume (DC
8	Digital Watermarking Strategies for Healthcare Data Security: A Comprehensive Review and Analysis	Aditi Kumari, HarshekMadhukar, Shagufa Ali Haider	8	IGI Global Scientific Publishing	Book Chapter (Chapter 7
9	A Dynamic Programming Based Graph Traversal Approach for Efficient Implementation of Nearest Neighbo	Sneha Lahiri, Megha Kesh, Rupsa Mandal, & 8th Sem	8	IEEE Computer Society (IEEE)	37th International Confere 23rd International Confere
10	Evolution of 6G- an In-depth Survey on History of Spectrum Allocation	V Pawar, A Chanda, P Nag, S Roy, A. Chatterjee	6	IEEE (Institute of Electrical and Electronics Engineers)	2023 International Confer Communication Systems
11	ADU-Net: an attention dense U-Net based deep supervised DNN for automated lesion segmentation of COV	Subhadeep Dutta	8	Elsevier	Biomedical Signal Proces

(CAYm3) 2022-23

S.No	Name of the Paper	Name of the Student	Semester	Name of the Publisher	Name of the J
1	Prediction of Indian government stakeholder oil stock prices using hyper parameterized LSTM models	Aditya Kumar Singh	8	IEEE (Institute of Electrical and Electronics Engineers)	2022 Internatio Computing for :
2	Machine learning-based S-CNN model for automated post-covid X-RAY identification	Suchismita Deb, Amiya Dey	8	IEEE (Institute of Electrical and Electronics Engineers)	2022 Second Ir Cyber Physical
3	Optimized EEG based mood detection with signal processing and deep neural networks for brain-compute	Subhrangshu Adhikary	8	IOP Publishing	Biomedical Phy
4	Machine Learning Based Approach for Future Prediction of Authors in Research Academics	Ayan Banerjee, Abhik Goswami,	8	Springer Nature	SN Computer S
5	Impact of Author indexing from the Co-authorship Relation	Ayan Banerjee, Arkaprava Mazumder	8	IEEE (Institute of Electrical and Electronics Engineers)	2022 Internatio Mathematics, E
6	e-BMI: A gait based smart remote BMI monitoring framework implementing edge computing and incrementa	Subhrangshu Adhikary	8	Elsevier	Smart Health
7	iBMSR: Intelligent Body Mass Status Recognition from Respiratory Auscultation	Subhrangshu Adhikary	8	IEEE (Institute of Electrical and Electronics Engineers)	2023 15th Inter Systems & Net
8	Opinion Mining and Sentiment Analysis on Twitter Data	Akanksha Priya, Sashwat Jha,	8	IEEE (Institute of Electrical and Electronics Engineers)	2022 Internatio Mathematics, E
9	ADAMAX optimizer and CATEGORICAL CROSSENTROPY loss function-based CNN method for diagnosing Lung can	Prity Das	4	IEEE (Institute of Electrical and Electronics Engineers)	2023 7th Intern and Informatics
10	Optimization of Intraday Trading in F&O on the NSE Utilizing BOLLINGER BANDS	Mimo Patra	8	Springer Nature (Springer Singapore)	Springer Editec
11	Artificial intelligence-based indicators for ALGO trading strategy on the NSE derivatives	Mimo Patra	8	Association for Computing Machinery (ACM)	ACM Conferen
12	An Advanced Approach to Detect Plant Diseases by the Use of CNN Based Image Processing	Ayan Banerjee, Saikat Ray, Samik Mandal	8	Springer Nature	Springer Editec
13	e-BMI: A gait based smart remote BMI monitoring framework implementing edge computing and incrementa	Subhrangshu Adhikary	8	Elsevier	Smart Health
14	ADAMAX optimizer and CATEGORICAL CROSSENTROPY loss function-based CNN method for diagnosing Lung can	Prity Das	4	IEEE (Institute of Electrical and Electronics Engineers)	2023 7th Intern and Informatics

5 FACULTY INFORMATION (100)

Sr.No	Name of the Faculty	PAN No.	APAAR faculty ID*(if any)	Highest degree	University	Area of Specialization	Date of Joining in this Institution	Experience in years in current institute	Designation at Time Joining in this Institution	Present Designation	The date on which Designated as Professor/ Associate Professor if any	N A (I C A)
1	Monalisa Chakraborty	AXQPC9142E	NA	M.Tech	University of Burdwan	Soft Computing	18/12/2020	5.3	Assistant Professor	Assistant Professor		F
2	NASIM ANJUM HOQUE	ACVPH1615B	NA	M.Tech	University of Burdwan	Cellular Intelligent System	11/07/2022	3.8	Assistant Professor	Assistant Professor		F
3	SWADHIN KUMAR MONDAL	CYRPM4535R	NA	M.Tech	MAKAUT	Machine Intelligence	12/07/2022	3.8	Assistant Professor	Assistant Professor		F
4	Prabal Kumar Sahu	BDTPS6011E	NA	M.Tech	Jadavpur University	Multimedia, AIML	01/04/2005	21	Assistant Professor	Assistant Professor		F
5	DR. MOUMITA PRADHAN	BKHPS4510D	NA	Ph.D	NIT, Durgapur	Swarm Intelligence	02/09/2005	20.7	Assistant Professor	Assistant Professor		F
6	MD. KERAMOT HOSSAIN MONDAL	AQTPM7162L	NA	M.Tech	NIT, Durgapur	QML	11/07/2006	19.9	Assistant Professor	Assistant Professor		F
7	MANAS KUMAR ROY	AKNPR3525N	NA	M.Tech	WBUT	Network and Data Security	03/10/2007	18.6	Assistant Professor	Assistant Professor		F
8	PRIYANKA ROY	AKWPR1950L	NA	M.Tech	WBUT	Network and Data Security	01/07/2010	15.9	Assistant Professor	Assistant Professor		F
9	AMIT KUMAR MUKHERJEE	AWRPM6982C	NA	M.Tech	SMU	Machine Intelligence	07/03/2022	4	Assistant Professor	Assistant Professor		F
10	DR. DINESH KUMAR PRADHAN	AQSPP3671J	NA	Ph.D	NIT, Durgapur	Data Science and AI	13/02/2003	23.1	Assistant Professor	Associate Professor		F
11	RAM PRASAD CHAKRABORTY	AIDPC4394E	NA	M.Tech	SRM University	Cloud Computing	01/08/2022	3.8	Assistant Professor	Assistant Professor		F
12	PURNENDU RUJ	AJUPR8966K	NA	M.Tech	WBUT	Machine Intelligence	26/07/2007	18.8	Assistant Professor	Assistant Professor		F
13	SARADA MALLIK	BEWPM1538Q	NA	M.Tech	Jadavpur University	Soft Computing	16/05/2023	2.11	Assistant Professor	Assistant Professor		F
14	Dr. SUMAN BHATTACHARJEE	AMRPB0567E	NA	Ph.D	I.I.E.S.T, Shibpur	Wireless Networks	01/10/2020	5.6	Associate Professor	Associate Professor		F
15	ARYA MANIKYA SINHA	MUJPS9587D	NA	M.Tech	Jadavpur University	Natural Language Processing, Deep Learning	15/07/2025	0.8	Assistant Professor	Assistant Professor		F
16	SUDIPTA SAMANTA	BDDPS6782G	NA	M.Tech	IIT, Guwahati	Data Security	10/03/2025	1	Assistant Professor	Assistant Professor		F
17	Banashree Chatterjee	BBLPC7516E	NA	M.Tech	MAKAUT	Machine Learning	18/12/2020	5.3	Assistant Professor	Assistant Professor		F
18	DR. SAIBAL MAJUMDER	APBPM4093D	NA	Ph.D	NIT, DURGAPUR	DATA SCIENCE	11/07/2023	2.8	Assistant Professor	Assistant Professor		F
19	PRASENJIT MAJI	BFMPM4642E	NA	M.Tech	WBUT	AR,VR	11/07/2023	2.8	Assistant Professor	Assistant Professor		F
20	DR. POULOMI MUKHERJEE (TEWARI)	ASAPT3094G	NA	Ph.D	NIT, Durgapur	5G Communication	10/02/2025	1.1	Assistant Professor	Assistant Professor		F
21	ANUSRUTI MITRA	DWOPM4677J	NA	M.Tech	MAKAUT	AIML	18/08/2025	0.7	Assistant Professor	Assistant Professor		F
22	DR. SUCHANDRA BANERJEE	AZCPB5704B	NA	Ph.D	NIT, Durgapur	VLSI	05/02/2025	1.2	Assistant Professor	Assistant Professor		F
23	KINSHUK BANERJEE	ATPPB8395R	NA	M.Tech	NIT, Durgapur	Software Engineering	10/03/2025	1.1	Assistant Professor	Assistant Professor		F
24	PURBA MUKHOPADHYAY	GRXPM6072C	NA	M.Tech	MAKAUT	DATA SCIENCE	15/07/2025	0.9	Assistant Professor	Assistant Professor		F
25	SK MOFIZUL HAQUE	BBKPH9244P	NA	M.E.	UIT, Burdwan University	Image Processing	07/01/2026	0.3	Assistant Professor	Assistant Professor		F

26	Suman Banerjea	AHWPB0300R	NA	M.Tech	SEACOM SSU	Machine Learning	26/06/2025	0.9	Assistant Professor	Assistant Professor		F
27	Susanta Karmakar	ATPPK5794H	NA	M.Tech	MAKAUT	Multimedia	02/07/2021	4.7	Assistant Professor	Assistant Professor		F
28	SUMAN DASGUPTA	AJZPD0181B	NA	M.Tech	NIT, Durgapur	AMST	01/03/2003	23.1	Assistant Professor	Assistant Professor		F
29	BISWAJIT SAHA	AYWPS4576R	NA	M.E.	Jadavpur University	Soft Computing	10/01/2014	12.3	Assistant Professor	Assistant Professor		F
30	DR. GOUR SUNDAR MITRA THAKUR	AUVPM2047E	NA	Ph.D	NIT, Durgapur	Artificial Intelligence	01/02/2014	12.2	Assistant Professor	Professor	01/11/2025	F
31	DR. ARNAB BANERJEE	BHTPB5890C	NA	Ph.D	Jadavpur University	Computer Vision, Deep Learning	07/07/2015	10.9	Assistant Professor	Assistant Professor		F
32	RAJA DEY	ATRPD7503K	NA	M.Tech	Jadavpur University	Machine Learning	03/06/2025	0.10	Assistant Professor	Assistant Professor		F
33	ATIN MUKHERJEA	BRLPM0048K	NA	M.Tech	WBUT	VLSI	02/05/2022	3.5	Assistant Professor	Assistant Professor		F
34	DEVLINA KARMAKAR	CLLPK5711N	NA	M.Tech	MAKAUT	Social Network Analysis	07/01/2025	1.3	Assistant Professor	Assistant Professor		F
35	DR. SOHAM BANDYOPADHYAY	ARQPB1839F	NA	Ph.D	IIT, Kharagpur	AIML	14/07/2025	0.9	Assistant Professor	Assistant Professor		F
36	AMIT KUMAR MONDAL	DGCPM9730A	NA	M.Tech	MAKAUT	Cyber Security	14/07/2025	0.9	Assistant Professor	Assistant Professor		F
37	Biswajit Sen	BSZPS3453F	NA	M.Tech	MAKAUT	Computer Networking	11/01/2021	5.3	Assistant Professor	Assistant Professor		F
38	Dr.Abhijit Aditya	ANGPA5232P	NA	Ph.D	Burdwan University	Cloud Computing	03/07/2018	7.9		Assistant Professor		F
39	Abhishek Mishra	BTFFPM7794C	NA	M.Tech	MAKAUT	Computer Networking	11/01/2021	5.3	Assistant Professor	Assistant Professor		F
40	Dr. SUBIR PANJA	AQJPP9817D	NA	Ph.D	Central Institute of Technology Kokrajhar	IOT Security	14/02/2025	1.2	Associate Professor	Associate Professor		F
41	ABHISHEK PAL	BJTPP9590D	NA	M.Tech	MAKAUT	Cyber Security	19/05/2025	0.10	Assistant Professor	Assistant Professor		F
42	MS. PARAMITA MANNA	BDGPM6246Q	NA	M.E.	Jadavpur University	Multimedia	23/02/2010	15.4	Assistant Professor	Assistant Professor		F
43	SANDIP CHAKRABORTY	AKHPC3120C	NA	M.Sc	AAIDU	Machine Learning	02/07/2013	11.10	Assistant Professor	Assistant Professor		F
44	Parag Kanti Chattopadhyay	ALQPC9087J	NA	M.Tech	MAKUT	Machine Learning	14/01/2022	3.5	Assistant Professor	Assistant Professor		F
45	Dr. Raj Kumar Samanta	AYWPS2773A	NA	Ph.D	NIT, Durgapur	Intelligent Systems, Computer Network	02/05/2013	12.10	Associate Professor	Professor	16/05/2019	F
46	Dr. Sumana Kundu	AWTPK4909P	NA	Ph.D	NIT, Durgapur	Pattern Recognition	01/11/2022	3.1	Associate Professor	Associate Professor	01/11/2022	F
47	Dr. Arindam Ghosh	AIHPG6610M	NA	Ph.D	NIT, Durgapur	Internet of things, Machine Learning	04/09/2012	13.4	Assistant Professor	Associate Professor	15/07/2022	F
48	Dr. Pabitra Kumar Dey	AGAPD0631J	NA	Ph.D	NIT, Durgapur	Machine Intelligence	10/08/2007	18.7	Lecturer	Professor	01/11/2025	F
49	Dr. Chandan Bandopadhyay	BAPPB0986G	NA	Ph.D	I.I.E.S.T, Shibpur	Quantum Computing	01/07/2022	3.9	Associate Professor	Associate Professor	01/07/2022	F
50	Dr. Falguni Chakraborty	AFQPC3101D	NA	Ph.D	NIT, Durgapur	Computer Vision & AI	20/09/2008	17.6	Lecturer	Associate Professor	01/11/2025	F
51	Dr. Vedatrayee Chatterjee	AKXPC6942J	NA	Ph.D	O S G University, Haryana	Optimization using Machine Learning	07/01/2026	0.2	Associate Professor	Associate Professor	07/01/2026	F

52	Dr. Bappaditya Das	AFJPD2977D	NA	Ph.D	RAMA University, UP	Machine Intelligence	07/09/2005	20.6	Lecturer	Associate Professor	01/11/2025	F
53	Dr. Anirban Bose	AMCPB5357R	NA	Ph.D	I.I.E.S.T, Shibpur	Image Water Marking	26/07/2006	19.8	Lecturer	Assistant Professor		F
54	Dr. Anandaprovra Majumder	ASQPG3891D	NA	Ph.D	NIT, Durgapur	Lexical steganography, Machine Learning	17/08/2012	13.7	Assistant Professor	Assistant Professor		F
55	Dr. Chandan Das	ALRPD2237Q	NA	Ph.D	I.I.E.S.T, Shibpur	Routing Algorithms	03/07/2007	18.8	Lecturer	Assistant Professor		F
56	Dr. Deepa Naik	AHVPN3819N	NA	Ph.D	NIT, Durgapur	Cloud Computing	11/07/2023	2.8	Assistant Professor	Assistant Professor		F
57	Dr. Sanjib Saha	BFNPS8618K	NA	Ph.D	NIT, Durgapur	Machine learning for Data science and Analysis	07/01/2012	14.2	Assistant Professor	Assistant Professor		F
58	Hiranmay Samaddar	BKLPS6195N	NA	M.E.	Jadavpur University	Optimization, AI, Soft Computing	17/07/2007	18.8	Assistant Professor	Assistant Professor		F
59	Saindhab Chattaraj	AIRPC6959M	NA	M.Tech	NIT, Durgapur	SAP	02/08/2008	17.7	Lecturer	Assistant Professor		F
60	Amitabha Mandal	ATWPM7652H	NA	M.Tech	N.I.T.T.T.R	Machine Intelligence, Image Processing, Medical Image Analysis	02/08/2008	17.7	Lecturer	Assistant Professor		F
61	Sabbir Reza Tarafdar	AJAPT1525A	NA	M.E.	Anna University	Machine Intelligence, Image Processing	03/04/2009	16.11	Lecturer	Assistant Professor		F
62	Kalpana Roy	ATKPR6377G	NA	M.Tech	WBUT	Network and Data Security	23/02/2010	16	Lecturer	Assistant Professor		F
63	Biswajit Mondal	AUNPM6667J	NA	M.Tech	C.U	Network Security	23/02/2010	16.1	Lecturer	Assistant Professor		F
64	Biswadev Goswami	AMRPG9393F	NA	M.Tech	Jadavpur University	Image Processing	16/04/2010	15.11	Assistant Professor	Assistant Professor		F
65	Syed Zahir Hasan	AEOPH2848M	NA	M.Tech	NIT, Durgapur	Cloud Computing	16/08/2012	13.7	Assistant Professor	Assistant Professor		F
66	Ruma Ghosh	ANLPG1141L	NA	M.Tech	Jadavpur University	Image Processing	04/09/2012	13.6	Assistant Professor	Assistant Professor		F
67	Rajib Kumar Mondal	ANLPM2447F	NA	M.Tech	WBUT	Optimization, Genetic Algorithm	11/02/2016	10.1	Assistant Professor	Assistant Professor		F
68	Joyjit Patra	BBPPP6014G	NA	M.Tech	WBUT	Machine learning, Soft Computing, Image Processing	18/12/2020	5.3	Assistant Professor	Assistant Professor		F
69	Dr. Sovan Bhattacharya	AYIPB3518N	NA	Ph.D	NIT, Durgapur	Machine learning for Data science and Analysis	18/12/2020	5.3	Assistant Professor	Assistant Professor		F
70	Sayan De	DCBPD0342C	NA	M.Tech	MAKAUT	Natural Language Processing, Deep Learning	05/02/2025	1.1	Assistant Professor	Assistant Professor		F
71	Priyanka Sarkar	MZYP2092H	NA	M.E.	Jadavpur University	IOT	03/11/2025	0.4	Assistant Professor	Assistant Professor		F
72	Kuntal Sarkar	KXJPS9112R	NA	M.Tech	IIT, Patna	Image Processing	07/01/2026	0.2	Assistant Professor	Assistant Professor		F
73	Ravi Singh	CCDPS6922C	NA	M.Tech	Uttarakhand Technical University	Natural Language Processing	19/03/2026	0	Assistant Professor	Assistant Professor		F

74	Santu Kundu	AVXPK4562B	NA	M.Tech	NIT, Durgapur	Machine Intelligence	19/05/2025	0.10	Assistant Professor	Assistant Professor		F
75	Dr. Sayan Gupa	BARPG4406Q	NA	Ph.D	NIT, Durgapur	Image Processing	16/05/2023	2.10	Assistant Professor	Assistant Professor		F
76	SUVOBRATA SARKAR	BMVPS4746P	NA	M.Tech	AAIDU	Soft Computing	01/09/2007	17.7	Assistant Professor	Assistant Professor		F

5.1 Student-Faculty Ratio (SFR) (30)

No. of UG(Engineering) programs in Department including allied departments/ clusters (UGn):

UG1=1st UG program

UGn=nth UG program

B= No. of Students in UG 2nd year (ST)

C= No. of Students in UG 3rd year (ST)

D= No. of Students in UG 4th year (ST)

No. of PG (Engineering) programs in Department including allied departments/ clusters (PGm):

PG1=1st PG program.

PGm=mth PG program

A= No. of Students in PG 1st year

B= No. of Students in PG 2nd year

Student Faculty Ratio (**SFR**) = S/F

S= No. of students of all programs in the Department including all students of allied departments/clusters.

No. of students (ST)=Sanctioned Intake (SA)+ Actual admitted students via lateral entry including leftover seats (L) if any (limited to 10 % of SA)

Students who admitted under supernumerary quotas (SNQ, EWS, etc) will not be considered in calculating SFR value. Those students are exempted.

F=Total no. of regular or contractual faculty members (Full Time) in the Department, including allied departments/clusters (excluding first year faculty (The faculty members

UG

No. of UG(Engineering) programs in Department including allied departments/clusters(UGn):

1

Computer Science and Engineering				
Year of Study	CAY		CAYm1	
	(2025-26)		(2024-25)	
	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students
2nd Year	180	7	120	12
3rd Year	120	12	120	12
4th Year	120	12	120	11
Sub-Total	420	31	360	35
Total	451		395	

Computer Science and Engineering (Cyber Security)				
Year of Study	CAY		CAYm1	
	(2025-26)		(2024-25)	
	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students
2nd Year	60	6	0	0
3rd Year	0	0	0	0
4th Year	0	0	0	0
Sub-Total	60	6	0	0
Total	66		0	

Computer Science and Engineering (Data Science)				
Year of Study	CAY		CAYm1	
	(2025-26)		(2024-25)	
	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students
2nd Year	60	6	60	2
3rd Year	60	2	60	6
4th Year	60	6	0	0
Sub-Total	180	14	120	8
Total	194		128	

Information Technology				
Year of Study	CAY		CAYm1	
	(2025-26)		(2024-25)	
	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students
2nd Year	60	4	60	0
3rd Year	60	0	60	6
4th Year	60	6	60	6
Sub-Total	180	10	180	12
Total	190		192	

Computer Science and Engineering (Artificial Intelligence & Machine Learning)				
Year of Study	CAY		CAYm1	
	(2025-26)		(2024-25)	
	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students
2nd Year	60	3	30	1
3rd Year	30	1	30	3
4th Year	30	3	0	0
Sub-Total	120	7	60	4
Total	127		64	

Computer Science and Design				
Year of Study	CAY		CAYm1	
	(2025-26)		(2024-25)	
	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students
2nd Year	60	1	60	0
3rd Year	60	0	60	5
4th Year	60	5	60	5
Sub-Total	180	6	180	10
Total	186		190	
Grand Total		1214	969	

PG

No. of PG Programs in the Department 1

Computer Science and Engineering		
Year of Study	CAY(2025-26)	CAYm1(2024-25)
	Sanction Intake	Sanction Intake
1st Year	18	18
2nd Year	18	18
Total	36	36
Grand Total		36

SFR

No. of UG Programs in the Department 1

No. of PG Programs in the Department 1

Computer Science and EngineeringComputer Science and Engineering (Cyber Security)Computer Science and Engineering (Data Science)Information TechnologyComputer Science and DesignComputer Science and Engineering

Description	CAY(202
UG1.B	187
UG1.C	132
UG1.D	132
UG1: Computer Science and Engineering	451
UG2.B	66
UG2.C	0
UG2.D	0
UG2: Computer Science and Engineering (Cyber Security)	66
UG3.B	66
UG3.C	62
UG3.D	66
UG3: Computer Science and Engineering (Data Science)	194
UG4.B	64
UG4.C	60
UG4.D	66
UG4: Information Technology	190
UG5.B	63
UG5.C	31
UG5.D	33
UG5: Computer Science and Engineering (Artificial Intelligence & Machine Learning)	127
UG6.B	61
UG6.C	60
UG6.D	65
UG6: Computer Science and Design	186
PG1.A	18
PG1.B	18
PG1: Computer Science and Engineering	36
DS=Total no. of students in all UG and PG programs in the Department	487
AS=Total no. of students of all UG and PG programs in allied departments	763
S=Total no. of students in the Department (DS) and allied departments (AS)	S1= 125
DF=Total no. of faculty members in the Department	24
AF= Total no. of faculty members in the allied Departments	35
F=Total no. of faculty members in the Department (DF) and allied Departments (AF)	F1= 59
FF=The faculty members in F who have a 100% teaching load in the first-year courses	0
Total faculty (TF = F - FF)	TF1= 59
Student Faculty Ratio (SFR)=S/(F-FF)	SFR1= 2
Average SFR for 3 years	SFR= 19

Average SFR for three assessment years : 19.13

Assessment SFR : 18

5.2 Faculty Qualification (25)

Year	X	Y	RF	FQ = 2.5 x [(10X + 4Y) / RF]]
2025-26(CAY)	22	38	62.00	15.00
2024-25(CAYm1)	17	35	50.00	15.50
2023-24(CAYm2)	14	39	42.00	17.62

Average Assessment : 16.04

5.3 Faculty Cadre Proportion (25)

Year	Professors		Associate Professors	
	Required F1	Available	Required F2	Available
CAY(2025-26)	7.00	1.00	14.00	5.00
CAYm1(2024-25)	6.00	1.00	11.00	6.00
CAYm2(2023-24)	5.00	1.00	10.00	6.00
Average Numbers	6.00	1.00	11.67	5.67

Cadre Ratio Marks [(AF1 / RF1) + [(AF2 / RF2) * 0.6] + [(AF3 / RF3) * 0.4]] * 12.5 : 13.00

5.4 Visiting/Adjunct/Emeritus Faculty etc. (10)

Table No. 5.4.1: List of visiting/adjunct faculty/professor of practice and their teaching and practical loads.
(CAYm1) 2024-25

S.No	Name of the Person	Designation	Organization	Name of the Course
1	Mr Tuhin Sinha	Founder and CEO	AEM Technologies	Linux Administration and Automation with
2	Mr Apratim Guha	Sr. TechnicalTrainer	AEM Technologies	Exploring Linux administration and autom
3	Mr Tuhin Sinha	Founder and CEO	AEM Technologies	Managing Azure Cloud with DevOps Tect
4	Mr Apratim Guha	Sr. TechnicalTrainer	AEM Technologies	Hands on learning on Azure DevOps Too
5	Prof. Dr. Sheli Sinha Chaudhuri	Professor, Dept of ETCE	Jadavpur University	BREAKING FRAMES: On the UN Sustain
6	Dr.-Ing. Sian Lun Lau	Professor, School of Engineering and Technology	Sunway University, Malaysia	Ubiquitous computing, sustainable smart
7	Dr. Asit Kumar Das	Professor, Computer Science and Technology	IIST Shibpur	Deep Neural Network
8	Dr. Debasis Giri	Professor, CSE	MAKAUT	Secure Data Transmission

(CAYm2) 2023-24

S.No	Name of the Person	Designation	Organization	Name of the
1	Mr. Gulab Mondal	Director & Cyber Security Consultant	Indian School of Ethical Hacking (formerly ISOAH)	Cyber Secur
2	Mr. Samyajit Mukherjee	Cyber Security Expert / Trainer	Indian School of Ethical Hacking (formerly ISOAH)	Cyber Secur
3	Mr. Nafish Alam	Cyber Security Expert / Trainer	Indian School of Ethical Hacking (formerly ISOAH)	Cyber Secur
4	Mr. Rohan Chettri	CEO	Qi	Angel Invest
5	Mr. Subhrangshu Adhikary	Research Scholar	NIT, Durgapur	Converting li
6	Dr. Sujoy Saha	Associate Professor, Dept of Computer Science and Engineering	NIT, Durgapur	ENIGMA 202

(CAYm3) 2022-23

S.No	Name of the Person	Designation	Organization	Nan
1	Mr. Gulab Mondal	Director & Cyber Security Consultant	Indian School of Ethical Hacking (formerly ISOAH)	Cyb
2	Mr. Samyajit Mukherjee	Cyber Security Expert / Trainer	Indian School of Ethical Hacking (formerly ISOAH)	Cyb
3	Mr. Nafish Alam	Cyber Security Expert / Trainer	Indian School of Ethical Hacking (formerly ISOAH)	Cyb
4	Mr. Subhrangshu Adhikary	Research Scholar	NIT, Durgapur	Intrc
5	Mr. Subhrangshu Adhikary	Research Scholar	NIT, Durgapur	Dee
6	Dr. Prasenjit Dey	Assistant Professor	Coochbehar Government Engineering College	Mac
7	Mr. Amartya Chatterjee	Assistant Professor	St. Thomas College of Engineering & Technology	IOT

5.5 Faculty Retention (10)

Description
RF=No. of required faculty in the Department to adhere to the 20:1 Student-Faculty ratio, with calculations based on both student numbers and faculty requirements as per (RF=DS/20).
AF=The no. of available faculty members in the Department including allied Departments
A= The no. of faculty members at the current institute with less than 1 year of experience (A in AF)
B= The no. of faculty members at the current institute with more than 1 year and less than 2 years of experience (B in AF)
C= The no. of faculty members at the current institute with more than 2 years and less than 3 years of experience (C in AF)
D= The no. of faculty members at the current institute with more than 3 years and less than 4 years of experience (D in AF)
E= The no. of faculty members at the current institute with more than 4 years of experience (E in AF)
$FR = (((A*0) + (B*1) + (C*2) + (D*3) + (E*4)) / RF) * 2.50$ (points limited to 10)

Average : 9.00

Assessment Marks : 9.00

6 FACULTY CONTRIBUTIONS (120)**6.1 Professional Development Activities (60)**

6.1.1 Memberships in Profession Societies at National/International Levels (5)**Table No. 6.1.1.1: List of faculty members and their memberships.**

S.No	Name of the Faculty	Name of the Professional Society /Body at National and International Level
1	Dr. Raj Kumar Samanta	Institute of Electrical and Electronics Engineers (IEEE)
2	Dr. Anandaprova Majumder	Institute of Electrical and Electronics Engineers (IEEE)
3	Mr. Biswadev Goswami	Computer Society of India
4	Ms. Ruma Ghosh	Institute of Electrical and Electronics Engineers (IEEE)
5	Dr. Chandan Bandyopadhyay	Association for Computing Machinery (ACM)
6	Dr. Raj Kumar Samanta	The Institution of Engineers (India)

6.1.2 Faculty as Resource Persons or Participants in STTPs/FDPs (15)**6.1.2.1 Faculty as Resource Persons in STTPs/FDPs (5)****Table No. 6.1.2.1: List of faculty members as resource person in STTP/FDP events.****(CAYm1) 2024-25**

S.No	Name of the Faculty as Resource Person	Name of the STTP/FDP	Date (DD/MM)
1	Dr. Raj Kumar Samanta	Emerging Trends in Computer Science	12/05/2025
2	Dr. Anirban Bose	Emerging Trends in Computer Science	13/05/2025
3	Dr. Anandaprova Majumder	Emerging Trends in Computer Science	14/05/2025
4	Dr. Arindam Ghosh	Emerging Trends in Computer Science	15/05/2025

(CAYm2) 2023-24

S.No	Name of the Faculty as Resource Person	Name of the STTP/FDP	Date (DD/MM)
1	Dr. Raj Kumar Samanta	Big Data Analysis, Visualization and Machine Learning	15/04/2024
2	Mr. Hiranmay Samaddar	Big Data Analysis, Visualization and Machine Learning	15/04/2024

(CAYm3) 2022-23

S.No	Name of the Faculty as Resource Person	Name of the STTP/FDP	Date (DD/MM)
1	Dr. Raj Kumar Samanta	Machine Learning-dealing with experimental data	22/06/2023
2	Dr. Anandaprova Majumder	Advancements of Cyber Security	22/08/2022
3	Dr. Subir Gupta	Advancements of Cyber Security	22/08/2022

6.1.2.2 Faculty Members' Participation in STTPs/FDPs (10)

Name of the faculty	Max 5 Per Faculty		
	2024-25(CAYm1)	2023-24(CAYm2)	2022-23(CAYm3)
Dr. Raj Kumar Samanta	3.00	3.00	3.00
Dr. Arindam Ghosh	3.00	3.00	0.00
Dr. Pabitra Kumar Dey	3.00	0.00	0.00
Dr. Sumana Kundu	5.00	3.00	5.00
Dr. Chandan Bandopadhyay	3.00	3.00	3.00
Dr. Falguni Chakraborty	0.00	3.00	0.00
Dr. Anirban Bose	3.00	3.00	5.00
Dr. Subir Gupta	0.00	0.00	3.00
Dr. Bappaditya Das	3.00	3.00	0.00
Mr. Hiranmay Samaddar	3.00	3.00	3.00
Mr. Suvabrata Sarkar	0.00	3.00	0.00
Mr. Saindhab Chattaraj	3.00	3.00	5.00
Mr. Amitabha Mandal	3.00	3.00	0.00
Mr. Sabbir Reza Tarafdar	0.00	3.00	0.00
Ms. Kalpana Roy	3.00	3.00	0.00
Mr. Biswajit Mondal	3.00	3.00	0.00
Mr. Biswadev Goswami	3.00	3.00	0.00
Dr. Sanjib Saha	0.00	3.00	0.00
Mr. Syed Zahir Hasan	3.00	3.00	5.00
Dr. Anandaprova Majumder	5.00	3.00	0.00
Ms. Ruma Ghosh	3.00	3.00	3.00
Mr. Biswajit Saha	0.00	0.00	5.00
Mr. Rajib Kumar Mondal	3.00	5.00	5.00
Dr. Chandan Das	3.00	5.00	3.00
Mr. Joyjit Patra	5.00	5.00	5.00
Dr. Sovan Bhattacharya	3.00	3.00	5.00
Ms. Monalisa Chakraborty	0.00	0.00	5.00
Ms. Banashree Chatterjee	0.00	3.00	0.00
Dr. Deepa Naik	5.00	0.00	0.00
Sum	71.00	78.00	63.00
RDF = Number of faculty required to comply with the 20:1 student - faculty ratio in the Department alone, as per section 5.1 of SAR(RDF= DS / 20).	24.35	21.55	21.55
Assessment Points (AP)= 2 * (Sum/(0.5* RDF)) (Points limited to 5 for each assessment year)	10.00	10.00	10.00

Average assessment over 3 years: 10.00

6.1.3 Faculty Certification of MOOCs through SWAYAM, etc. (10)**Table No. 6.1.4.1: List of faculty members obtained certification of MOOCs for the past 3 years.**

S.No	Name of the Faculty	Name of Course Passed	Course Offered by (ag
1	Dr. Sovan Bhattacharya	Introduction to LLM	SWAYAM
2	Mr. Hiranmay Samaddar	Cellular Automata and Its Applications	NIT Durgapur
3	Mr. Hiranmay Samaddar	Algorithms for Data Science	NIT Durgapur
4	Mr. Hiranmay Samaddar	Quantitative Data Analysis	NIT Durgapur
5	Mr. Hiranmay Samaddar	Research Methodology	NIT Durgapur
6	Ms. Ruma Ghosh	Research Methodology	NIT Durgapur
7	Ms. Ruma Ghosh	AI and Machine Learning	NIT Durgapur
8	Ms. Ruma Ghosh	Advanced DBMS	NIT Durgapur
9	Ms. Ruma Ghosh	Basics of IoT and Applications	NIT Durgapur

6.1.4 FDP/STTP Organized by the Department (10)**Table No. 6.1.5.1: List of FDPs/STPs organized by Department for the past 3 years.****(CAYm1) 2024-25**

S.No	Name of the Program	Date of the Program(DD/MM/YYYY)	Duration	Name of the Speaker & Designation
1	Microsoft Azure Fundamentals	08/01/2025	6 days	Mr. Tuhin Sinha, CEO, AEM Technolog

(CAYm2) 2023-24

S.No	Name of the Program	Date of the Program(DD/MM/YYYY)	Duration	Name of the Speaker & Designation ar
1	Machine Learning Applications for Sustainable Society"	22/04/2024	5 days	Dr. T. De, Professor, NIT Durgapur and N
2	Emerging Trends in Science and Technology from Academia to Industry	19/03/2024	5 days	Dr. R. Mondal, Assistant Professor, CIOT persons.

(CAYm3) 2022-23

S.No	Name of the Program	Date of the Program(DD/MM/YYYY)	Duration	Name of the Speaker & Desi
1	Advancement of Cyber Security	22/08/2022	5 days	Dr. J. Howlader, Assistant prof
2	Fast Emerging Research Domain for Future Trends of Advanced Computation	06/02/2023	5 days	Dr. W. Chakroborty, Research

6.1.5 Faculty Support in Student Innovative Projects (10)

**Table No. 6.1.6.1: List of faculty members involved in student innovative projects.
(CAYm1) 2024-25**

S.No	Name of the Faculty	Name of the Event	Date of the Event(DD/MM/YYYY)	Place of
1	Mr. Joyjit Patra	2024 International Conference on Circuit, Systems and Communication (ICCS)	06/08/2024	Morocco
2	Mr. Joyjit Patra	2024 IEEE International Conference on Communication, Computing and Signal Processing (IICCS)	29/11/2024	Asansol,
3	Dr. Raj Kumar Samanta	Analytics, Machine Learning, and Artificial Intelligence	21/11/2024	Kolkata,
4	Mr. Syed Zahir Hasan	International Conference on Machine Learning and Big Data Analytics (ICMLBDA 2023)	01/02/2025	National Pradesh
5	Mr. Joyjit Patra	International Conference on Computing Sciences 2023 (ICCS 2023)	13/08/2024	Prague,
6	Mr. Biswajit Mondal	International Conference on Computing Sciences 2023 (ICCS 2023)	13/08/2024	Prague,
7	Mr. Joyjit Patra	International Conference on Smart Systems and Wireless Communication SSWC 2024	18/04/2025	Kalyani,
8	Dr. Arindam Ghosh	2024 IEEE International Conference on Electronics, Computing and Communication Technologies (CONECCT)	20/09/2024	Bangalo
9	Dr. Anirban Bose	Internal Hackathon for SIH Screening	03/09/2024	Dr. B. C.
10	Dr. Sanjib Saha	Internal Hackathon for SIH Screening	03/09/2024	Dr. B. C.
11	Dr. Anandaprova Majumder	Internal Hackathon for SIH Screening	03/09/2024	Dr. B. C.
12	Mr. Rajib Kumar Mondal	Internal Hackathon for SIH Screening	04/09/2024	Dr. B. C.
13	Mr. Sabbir Reza Tarafdar	Internal Hackathon for SIH Screening	04/09/2024	Dr. B. C.

(CAYm2) 2023-24

S.No	Name of the Faculty	Name of the Event	Date of the Event(DD/MM/YYYY)	Place of Eve
1	Dr. Anirban Bose	Smart Bengal Hackathon 2024	17/04/2024	RCC Institute
2	Mr. Rajib Kumar Mondal	Internal Hackathon for SIH Screening	11/09/2023	Dr. B. C. Roy
3	Dr. Anandaprova Majumder	Internal Hackathon for SIH Screening	11/09/2023	Dr. B. C. Roy
4	Mr. Amitabha Mandal	Internal Hackathon for SIH Screening	11/09/2023	Dr. B. C. Roy
5	Dr. Sanjib Saha	Internal Hackathon for SIH Screening	11/09/2023	Dr. B. C. Roy
6	Dr. Sanjib Saha	International Conference on Emergent Converging Technologies and Biomedical Systems	25/02/2024	Jaypee Unive HP, India
7	Dr. Arindam Ghosh	2024 IEEE International Conference on Computing, Power and Communication Technologies (IC2PCT)	08/04/2024	Greater Noid
8	Dr. Sumana Kundu	Proceedings of International Conference on Network Security and Blockchain Technology	29/11/2023	Midnapore, In
9	Ms. Kalpana Roy	Advances in Networks, Intelligence and Computing	23/05/2024	Lovely Profe
10	Dr. Anandaprova Majumder	Proceedings of International Conference on Network Security and Blockchain Technology	29/11/2023	Midnapore, In
11	Ms. Ruma Ghosh	2024 IEEE International Conference on Computing, Power and Communication Technologies (IC2PCT)	08/04/2024	Greater Noid
12	Dr. Sovan Bhattacharya	2023 IEEE International Conference on Integrated Intelligence and Communication Systems (ICIICS)	08/02/2024	Kalaburagi, K

(CAYm3) 2022-23

S.No	Name of the Faculty	Name of the Event	Date of the Event(DD/MM/YYYY)
1	Mr. Joyjit Patra	2022 International Conference on Intelligent Controller and Computing for Smart Power (ICICCS)	21/07/2022
2	Dr. Arindam Ghosh	COMSNETS 2023	15/02/2023
3	Mr. Joyjit Patra	2022 Second International Conference on Interdisciplinary Cyber Physical Systems (ICPS)	10/11/2022
4	Mr. Joyjit Patra	7th International Conference on Trends in Electronics and Informatics (ICOEI)	24/05/2023
5	Mr. Joyjit Patra	Human 2023: Intelligent Human Centered Computing	15/06/2023
6	Dr. Subir Gupta	7th International Conference on Trends in Electronics and Informatics (ICOEI)	24/05/2023
7	Dr. Subir Gupta	Human 2023: Intelligent Human Centered Computing	15/06/2023

6.1.6 Faculty Internship/Training/Collaboration with Industry (10)**Table No. 6.1.7.1: Faculty internship/training/collaboration details.**

S.No	Name of the Faculty	Name of the Internship/ Training/ Collaboration	Name of the Company & Place	Duration
1	Mr. Joyjit Patra	Training program on Java Full stack conducted by TalentNext	Wipro	3 weeks
2	Mr. Biswadev Goswami	Data Science with Python	Wipro	3 weeks
3	Mr. Sayan De	Joint Research Collaboration	Indian Institute of Information Technology Kalyani	1.2 Years
4	Dr. Arindam Ghosh	Joint Research Collaboration	National Institute of Technology, Durgapur	2 Years
5	Dr. Anandaprova Majumder	Joint Research Collaboration	National Institute of Technology, Durgapur	2 Years
6	Dr. Sumana Kundu	Joint Research Collaboration	National Institute of Technology, Durgapur	1.5 Years
7	Dr. Sanjib Saha	Joint Research Collaboration	National Institute of Technology, Durgapur	3 Years
8	Dr. Anirban Bose	Joint Research Collaboration	IIST Shibpur	1.2 Years
9	Mr. Rajib Kumar Mondal	Joint Research Collaboration	National Institute of Technology, Durgapur	2 Years
10	Dr. Sovan Bhattacharya	Joint Research Collaboration	National Institute of Technology, Durgapur	2.1 Years
11	Ms. Ruma Ghosh	Joint Research Collaboration	National Institute of Technology, Durgapur	2.2 Years
12	Dr. Biswadev Goswami	Joint Research Collaboration	Academy of Scientific and Innovative Research (AcSIR), Ghaziabad	1.3 Years
13	Mr. Nasim Anjum Hoque	Training program on Java Full stack conducted by TalentNext	Wipro	3 weeks

6.2 Research and Development Activities (60)

6.2.1 Academic Research (10)

Table No. 6.2.1.1: Faculty publication details.

S.No.	Item	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)
1	No. of peer reviewed journal papers published	10	17	9
2	No. of peer reviewed conference papers published	32	23	33
3	No. of books/book chapters published	1	8	4

6.2.2 Development Activities (10)

Table 1: The list of Patents published by the faculty members (**in bold**) can be seen from the following table.

Sl. No.	Title of the Patent	Name of the Inventor/Inventors	Application No. /IPC No. with Date	Status (Filed/Granted)
1	A Method And System For Passing Encrypted Messages Through Text	1.Dr. Santanu Koley 2. Dr. Seema P. Nehete 3. Durga Prasad Roy 4. Aditya Shankar Ghosh 5. Dr. Sandip Chanda 6. Surbhi Tyagi 7. Dr. Sumana Kundu 8. Dr. Santanu Santra 9. Anandaprova Majumder 10. Dr. Suvamoy Changder 11. Dr. Anand Kiran	202331079221 01-12-2022	Published
2	A Cover Synthesis Based Data Hiding Approach By Generating Sequence	1. Dr. Suvamoy Changder 2. Mrs. Anandaprova Majumder 3. Dr. Sumana Kundu	202431012577 01-12-2023	Published
3	An Innovative Approach to Synthesize Databases for Coverless Data Hiding	1. Dr. Anandaprova Majumder 2. Dr. Sumana Kundu 3. Dr. SuvamoyChangder	202431060948 31-01-2025	Published
4	An Enhanced Data Hiding via Location Mapping and Cover Synthesis Through The Model SSSP Problem Generation	1. Dr. SuvamoyChangder 2. Dr. Anandaprova Majumder 3. Dr. Sumana Kundu	202531004961 31-01-2025	Published
5	Speech Recognition Device Using Dipthong Detection	1. Mr. Samiran Maulick 2.Dr. Anandaprova Majumder 3.Dr. Anirban Bose 4.Dr. Sumana Kundu 5.Mr. Rajib Kumar Mondal 6.Mr. Amitabha Mandal 7.Dr. Deepa Naik 8.Dr. Subhankar Chatterjee	475498-001 01-10-2025	Published
6	Photovoltaic Panel solar tracking device	1. Mr. Sankha Singhamahapatra, 2. Mrs. Aditi Tokder, 3. Dr. Subhankar Chatterjee. 4. Dr. Anirban Bose 5. Dr. Anandaprova Majumder. 6. Dr. Sumana Kundu. 7. Mr. Amitabha Mandal, 8. Mr. Rajib Kumar Mondal	6514788 10-04-2024	Granted
7	lot Based Bio-Reactor For Plastic Decomposition	1.Dr. Arindam Mondal 2. Dr. Anirban Bose 3.Mr. Chandan Das 4.Dr. K M Hossain	407839-001 10-05-2024	Published

8	A Method and System for Development of E-Vault Using Biometrics Based Authentication for Office Accessing the Bank Lock	1. Arindam Mondal 2. Utkarsh Srivastava 3. Sayantani Chatterjee 4. Swagato Samanta 5. Subhadeep Mukherjee 6. Dr. Anirban Bose 7. Dr. Chandan Das 8. Mukulika Chatterjee 9. Debangshu Hazari 10. Sumantra Bandyopadhyay 11. Tuhin Modak	202431039847 31-05-2024	Published
9	A System and Method for Detecting Faults in Streetlights and Automating Remote Assistance Office using Advanced Network Communication	1. Arindam Mondal 2. Subhadeep Mukherjee 3. Sayantani Chatterjee 4. Debangshu Hazari 5. Sumantra Bandyopadhyay 6. Dr. Anirban Bose 7. Mr. Biswajit Saha 8. Tuhin Modak 9. Mukulika Chatterjee	202531006431-A 02-02-2025	Published
10	Collision Detection And Accident Prevention Device For 4 Wheelers	1. Dr. Arindam Mondal 2. Dr. Anirban Bose 3. Mr. Snehashis Ghoshal 4. Mrs. Barnali Mondal	432230-001 19-06-2025	Published
11	Interactive Multi-way Touchscreen Table for Classroom Learning	1. Dr. Santanu Koley 2. Umesh Pal 3. Dr. Surekha Lanka 4. Dr. Parijat Bhowmick 5. Dr. Sutapa Chatterjee Sarkar 6. Dr. Abhisek Roy 7. Dr. Deepa Naik 8. Janardhan Reddy Timmareddy 9. Dr. Atanu Nag 10. Debika Chaudhuri	64216192-20 04-02-202424	Granted
12	Ai And The Inter Net Of Things (Iot) Are Used Together To Make A Safe Routing Algorithm For Mobile Ad-Hoc Networks That Saves Energy	1. Mr. T R Arunkumar 2. Ms. Srilatha Toomula 3. Mr. Chirumamilla Siva Sai Kumar 4. Dr. G. Hemanth Kumar Yadav 5. Dr. Bhaskar Vijayrao Patil 6. Amitabha Mandal 7. Dr. Akhilesh A. Wao 8. Mr. Md Keramot Hossain Mondal 9. Manas Kumar Roy 10. Dr. S. Vimalnath 11. Mr. Annam Karthik 12. Dr. Harikumar Pallathadka	202241064060 25-11-2022	Published
13	System and Method for English alphabet identification with Augmented Image and sound	1. Nishant Kumar Rai 2. Swadhin Kumar Mondal 3. Nasim Anjum Hoque 4. Prasenjit Maji 5. Dr. Raj Kumar Samanta	202431047266 0-06-2024	Published

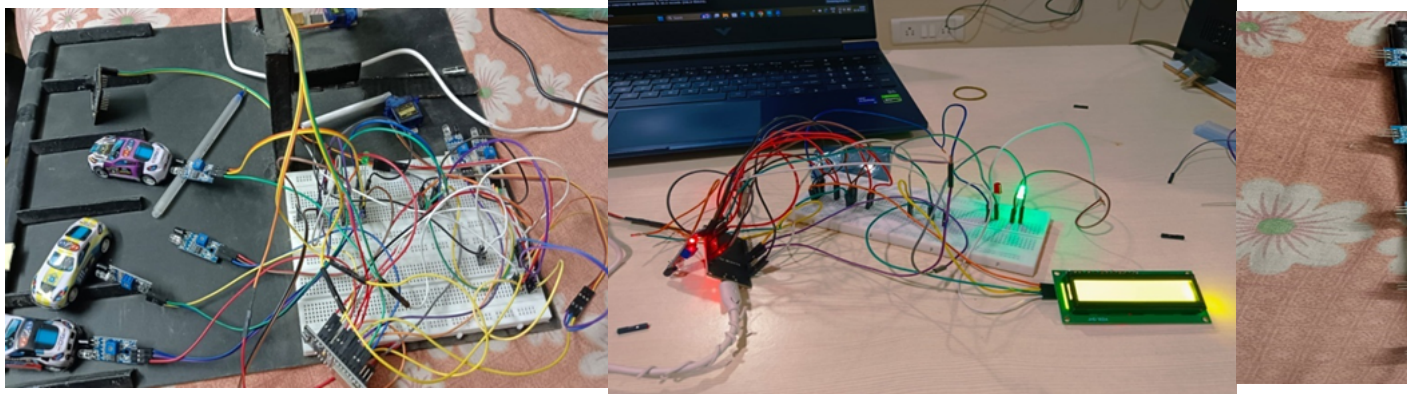
Prototypes and working models:

The final project demonstration of the working prototype and the report is evaluated by the project review committee along with the respective guide. The students present their project to the review committee and other faculty members. The project review committee and corresponding project guide evaluate the students based on demonstration of the project and the submitted report.

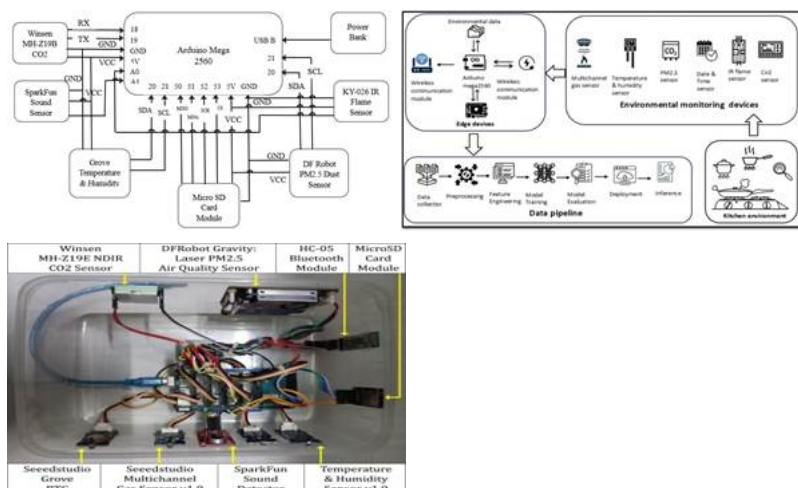
Table 2: Sample projects for **quality of completed working models/prototypes**

Project Title	Name of the Student	University Roll Number	Name of Project Supervisor
Context Identification using Passive Sensing for Smart Kitchens	Abhishek Dasgupta	12000121003	Dr.Arindam Ghosh
	SagnikSanyal	12000121034	
	JoydeepMallick	12000121036	
Smart Home With Security Surveillance	Subhadeep Mukherjee	12000121104	Prof.BiswajitSaha
	DebangshuHazari	12000121077	
	SumantraBandyopadhyay	12000121092	
Interior Design App Using Augmented Reality(AR)	TuhinModak	12000121095	Prof.SyedZahir Hasan
	Sayantani Chatterjee	12000121122	
	SuvajitGarai	12000121093	
IoT& Machine Learning (Smart Parking)	BiptainRakshit	12000123128	Prof.JoyjitPatra
	Soumyadip Jana	12000123131	
	SaptarshiMaji	12000122101	
	Anish Konar	12000122105	
Privacy-Preserving Kitchen Activity Classification Using Acoustic and Environmental Sensors with TinyML	Upasana Ghosh	12000122025	Prof.Ruma Ghosh
	TitikshaDalal	12000122060	
TinyML-Based Floor-wise AQI Prediction in Smart Classrooms	Survi Mukherjee	12000122070	Prof.Ruma Ghosh
	Rajeshwari Das	12000122065	
Tiny Flame: Context aware cooking activity detection using flame sensing on EDGE devices	GOKUL PAL	12000122006	Prof.Ruma Ghosh
	RIMA GORAI	12000122021	
	SNEHA CHAND	12000122032	

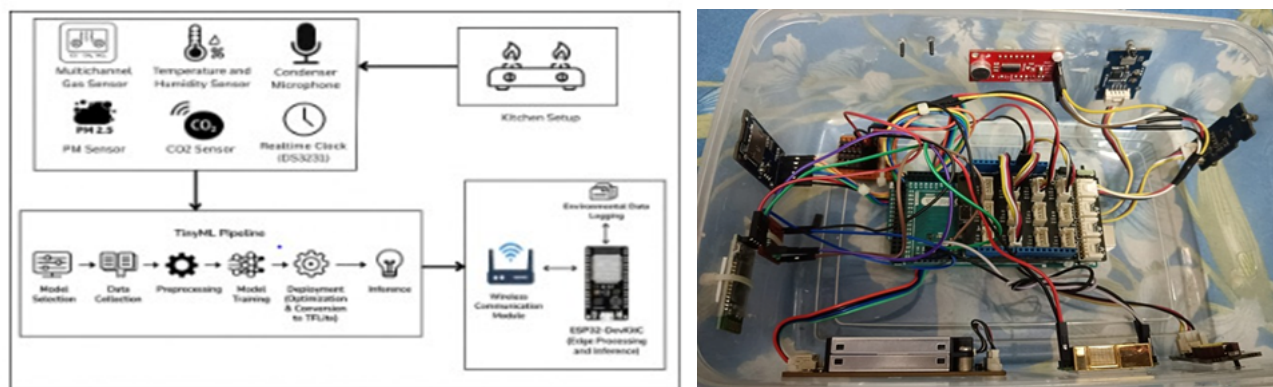
1. IoT & Machine Learning (Smart Parking) Project working models/prototypes:



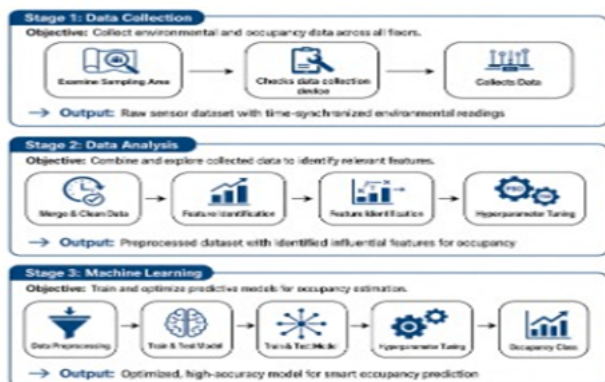
2. Tiny Flame: Context aware cooking activity detection using flame sensing on EDGE devices Project working models/prototypes:

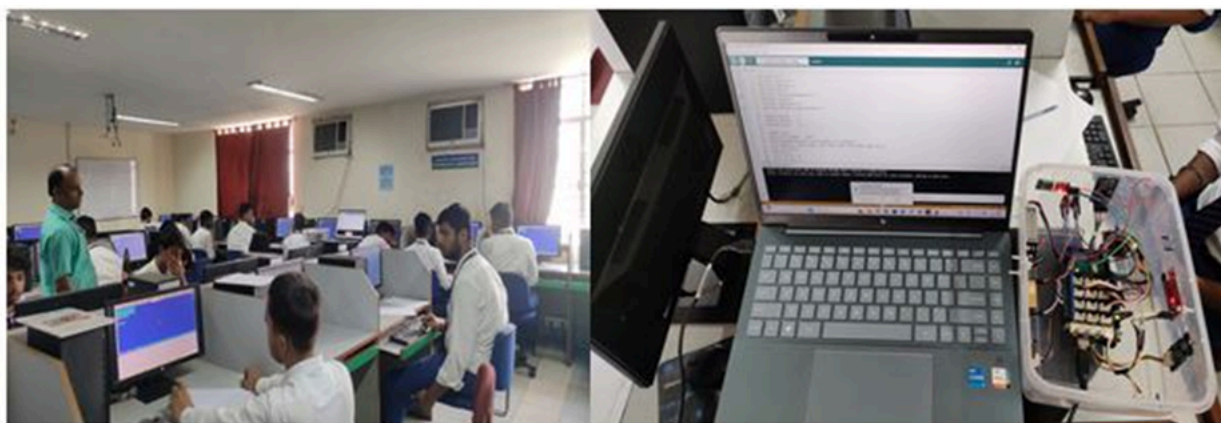


3. Privacy-Preserving Kitchen Activity Classification Using Acoustic and Environmental working models/prototypes:

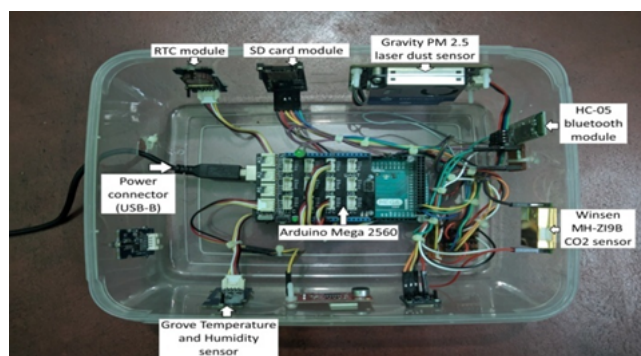
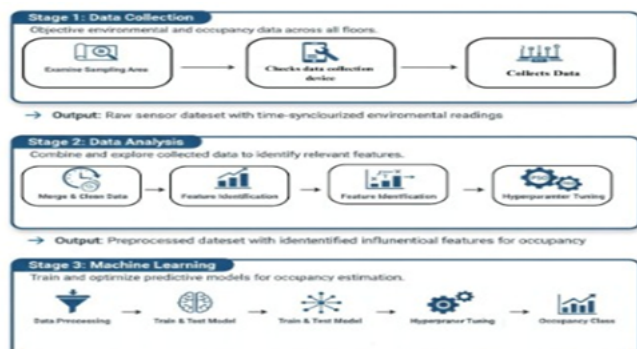


4. TinyML-Based Floor-wise AQI Prediction in Smart Classrooms Project working models/prototypes:





5. AQI and Occupancy Estimation in Smart Classrooms using PSO Optimised Models: AC vs Non-AC Multi-Floor Analysis Project working models/prototype



6.2.3 Sponsored Research Project (15)

2024-25 (CAYm1)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency

2023-24 (CAYm2)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency

2022-23 (CAYm3)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*
Prof. (Dr.) Sanjay S. Pawar	Dr. Anirban Bose	BCREC Artificial Intelligence and Emerging Technology (BAIET) Foundation	Digital Transformation System for Prefailure Alert Generation for Motors and Reduction based on IBA data in WRM

Total Amount (Lacs) Received for the Past 3 Years: 33.60

Note*:

- Only sponsored research projects will be considered. Infrastructure-based projects will not be considered here.

6.2.4 Consultancy Work (15)

2024-25 (CAYm1)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency

2023-24 (CAYm2)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency

2022-23 (CAYm3)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency

Total amount (Lacs) received for the past 3 years:

Note*:

- Only consultancy projects will be considered. Infrastructure-based projects will not be considered here.

6.2.5 Institution Seed Money or Internal Research Grant to its Faculty for Research Work(10)**6.2.5 A Amount received (6)****2024-25 (CAYm1)**

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. Arindam Ghosh	Hackathon Expenses	1 year	10200.00
			Amount received (Rs.): 10200.00

2023-24 (CAYm2)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25

2022-23 (CAYm3)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25
Dr. Sovan Bhattacharya	A Smart Automated AGRO-BASED App to Detect Plant Diseases Using CNN and LSTM	2 year	164741.00
Dr. Anirban Bose	Secure E-Vault System	1 year	11614.00
			Amount received (Rs.):

Total amount (Lacs) received for the past 3 years : 186555.00

6.2.5 B Amount utilized (4)

Research equipment purchase for experimental work and model developement 164741

01/10/2024
10:57:52AM

B 5

DR.B.C.ROY ENGINEERING COLLEGE, DURGAPUR
JEMUA ROAD, FULJHORE, DURGAPUR-713206, WEST BENGAL
Phone: (0343) 250 1353, Fax: (0343) 250 4059, eMail: info@bcrec.ac.in

Cash Voucher

Voucher No: CSH-28082024-3

Date: 28/08/2024

Pay To : Dr. Arindam Ghosh, HOD, CSE

Particulars	Amount Dr.
<u>College & Students' Activities (Expenses) A/C</u>	
Hackathon Expenses	
B.TECH (CSE)	6,600.00
Cash	

Rupees. Six Thousand Six Hundred Only

Amount paid to Arindam Ghosh, HOD, CSE towards re-imbursement of expenses incurred for participation in SMART HACKATHON held on 17th April' 2024 at RCC Institute of Information Technology, Belegghata, Kolkata by Subhadeep Mukherjee, Debangshu Hazari, Mukulika Chatterjee, Sumantra Bandyopadhyay and Tuhin Modak (CSE 3rd Year) Me Sayantani Chatterjee

PRANAB KARMAKAR

Prepared By

PRANAB KARMAKAR

Approved By

01/10/2024
10:54:43AM

B 5

DR.B.C.ROY ENGINEERING COLLEGE, DURGAPUR
JEMUA ROAD, FULJHORE,DURGAPUR-713206, WEST BENGAL
Phone: (0343) 250 1353, Fax: (0343) 250 4059, eMail: info@bcrec.ac.in

Cash Voucher

Voucher No: CSH-28082024-2

Date: 28/08/2024

Pay To : Dr. Arindam Ghosh, HOD, CSE

Particulars	Amount Dr.
College & Students' Activities (Expenses) A/C	
Hackathon Expenses	
B.TECH (CSE)	3,600.00
Cash	

Rupees. Three Thousand Six Hundred Only

Amount paid to Arindam Ghosh, HOD, CSE towards re-imbursement of expenses incurred for participation in INNOFUS held on 26th and 27th July' 2024 at UEM, Kolkata by Subhadeep Mukherjee, Debangshu Hazari and Tuhin Modak (CSE Year) Mentor : Sayantani Chatterjee

PRANAB KARMAKAR

Prepared By

PRANAB KARMAKAR

Approved By

11732343 + 47317.57 11614 + 11000 = 1,65,028 REMOTE COMPUTING TECHNOLOGIES

36 & 37, SML LAVENDER, FLAT102, 3RD CROSS, NRUPATUNGA NAGAR
7TH PHASE, JP NAGAR BENGALURU 560078, Karnataka, India
GSTIN : 29AAOFR5132N1ZJ

Invoicing Address
Dr. B. C. Roy Engineering College
Jemua Road,
Fulphora, Durgapur 713206, West Bengal, India
☎ +91 98742 30324 ✉ atin.mukherjee@bcrc.ac.in

Shipping Address
Mr. Sovan Bhattacharya
Jemua Road,
Fulphora, Durgapur 713206, West Bengal, India
☎ +91 86531 55308 ✉ sovan.cse@gmail.com

Tax Invoice #
INV/2023/01/140

Invoice Date: 30/01/2023 **Due Date:** 01/03/2023 **Source Doc:** S00856

Reference:
PO/BCREC/00222/22-23 DI..18.01.2023

* Courier Company : SHREE MARUTI COURIER SERVICES PVT LTD
* Tracking Number : 22019230032977
* eWayBill Details : 151591401610, 30/01/2023 01:21:00 PM

Item	Description	HSN	Quantity	Unit Price	Taxes	Amount
1	[KIT0667] Kit - Raspberry Pi4 (8GB) Complete (16 GB) Kit includes Raspberry Pi 4 Model B 8GB Enclosure (Case) with Cooling Fan Power Adapter - Type C connector, 5V 3Amp 16GB Class10 MicroSD Card Preloaded with NOOBS MicroHDMI to HDMI Cable Network Patch Cable Copper Heat Sink USB Card Reader	84714190	6.00	₹ 12,100.00	IGST 18%	₹ 72,600.00
2	[OND1720] TP-Link Archer c60(us) 1350 Mbps Wireless Router (White, Dual Band)	84733099	3.00	₹ 2,199.00	IGST 18%	₹ 6,597.00
3	[BOA0172] Arduino UNO R3 with Cable	84733099	1.00	₹ 900.00	IGST 18%	₹ 900.00
4	[POW0926] Power Adapter 5.1V 3A C Type Official	85044090	2.00	₹ 680.00	IGST 18%	₹ 1,360.00
5	[ACC0943] MI Power Bank 20000mAh	85369090	3.00	₹ 1,909.00	IGST 18%	₹ 5,727.00
6	[SEN1202] Speak (Voice) Recognition Module V3 compatible with Arduino	85437019	5.00	₹ 2,457.00	IGST 18%	₹ 12,285.00
7	[DIS0387] Display - 7" Touch RPI Official	90138000	3.00	₹ 6,550.00	IGST 18%	₹ 19,650.00
8	[ADD0994] RPI Relay Board 8 Channel	85381090	1.00	₹ 389.00	IGST 18%	₹ 389.00
9	[ACC0217] Breadboard, Solderless, Transparent 830 Points	85177990	2.00	₹ 195.00	IGST 18%	₹ 390.00
10	[ADD0215] Breadboard Jumper Wire Pack 5 each type	84733099	1.00	₹ 75.00	IGST 18%	₹ 75.00
11	[SEN0772] Mini PIR Motion Sensor Module - Grove SKU 101020353	85437019	1.00	₹ 690.00	IGST 18%	₹ 690.00
12	[ACC1496] 5MP OV5647 Wide Angle Fish-eye Lens Night Vision Camera for Raspberry Pi	84733099	5.00	₹ 1,260.00	IGST 18%	₹ 6,300.00
13	[SEN0753] Mg811 Carbon Dioxide Gas Co2 Sensor	85437019	3.00	₹ 3,050.00	IGST 18%	₹ 9,150.00

Mob : 7676848866 || Email : Keshav@CrazyPI.com || www.CrazyPI.com

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REMOTE COMPUTING TECHNOLOGIES

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7TH PHASE, JP NAGAR BENGALURU 560078, Karnataka, India

GSTIN : 29AAOFR5132N1ZJ

Description

[STO1052] SD Card 128GB Class10
[CAB0834] Official Micro-HDMI (Male) to
Standard HDMI (Male) Black Cable-2m for
Raspberry Pi
[OND1123] Standard Shipping Charges
Round Off

HSN	Quantity	Unit Price	Taxes	Amount
85235100	2.00	₹ 1,250.00	IGST 18%	₹ 2,500.00
85441990	2.00	₹ 499.00	IGST 18%	₹ 998.00
9968	1.00	₹ 250.00	IGST 18%	₹ 250.00
84733099	1.00	₹ 0.02		₹ 0.02

Total before Tax	₹ 1,39,861.02
IGST	₹ 25,174.98
Total	₹ 1,65,036.00

Amount in Words: ONE HUNDRED AND SIXTY-FIVE THOUSAND AND THIRTY-
INDIAN RUPEE

Please use the following communication for your payment : INV/2023/01/140

Payment terms: 30 Days

Bank Details

DBS Bank India Ltd, Mumbai Branch
A/C Name : REMOTE COMPUTING TECHNOLOGIES,
A/C No. 101214201356, IFSC : DBSS0IN0811
Our UPI ID: crazypi@dbbs

For REMOTE COMPUTING TECHNOLOGIES



Authorized Signatory

Online Store for Innovative Products



Invoice #2620586

Order Details

ElectronicsComp.com
 Constlick Technologies Limited
 Building No 13 and 14, 3rd Floor, 2nd Main, Siddaiah Road
 Near Passport Office Sudhama Nagar, Bangalore, Karnataka
 - 560027 India.
 Customer Support - care@electronicscomp.com

Mobile +91-9008032648
 E-Mail care@electronicscomp.com
 Web Site: <https://www.electronicscomp.com>
 (<https://www.electronicscomp.com>)

Date Added: 24/03/2022
 Invoice No.: INV/21-22/12984
 Invoice Date : 25/03/2022
 Order ID: 2620586
 Payment Method: Debit Card, Credit Card, NetBanking, UPI
 and Wallet
 Shipping Method: Free Shipping
 GSTIN No.: 29AAGCC1645N1ZA

Billing Address

UTKARSH SRIVASTAVA
 C/8, STAR TYPE, DALMIANAGAR, ROHTAS, BIHAR
 DEHRI ON SONE 821305
 Bihar
 India
 Contact No. - 7366890457
 Email. - utkarsh5679077@gmail.com

Shipping Address

UTKARSH SRIVASTAVA
 C/8, STAR TYPE, DALMIANAGAR, ROHTAS, BIHAR
 DEHRI ON SONE 821305
 Bihar
 India

No. of Products	Model	HSN Code	Quantity	Price	Tax	Total
Raspberry Pi 8MP NoIR Camera Module V2 with Cable	EC-2893	8525	1	Rs.2499.00	IGST (18%)	Rs.2499.00
12V 5A SMPS - 60W - DC Metal Power Supply - Good Quality - Non Water Proof	EC-0800	8504	1	Rs.375.00	IGST (18%)	Rs.375.00
TDA7297 Dual Audio Amplifier Module	EC-6480	8518	1	Rs.269.00	IGST (18%)	Rs.269.00
DHT11 - Temperature and Humidity Sensor Module	EC-0442	9032	1	Rs.92.00	IGST (18%)	Rs.92.00
801S Vibration Shock Sensor Modul	EC-5341	9031	1	Rs.269.00	IGST (18%)	Rs.269.00
MQ2 Flammable Gas and Smoke Sensor Module	EC-0176	8538	1	Rs.98.00	IGST (18%)	Rs.98.00

https://www.electronicscomp.com/index.php?route=account/order/invoice&order_id=2620586

1/2

		Invoice		Quantity	Price	Tax	Total
No. of Products		Model	HSN Code				
5/26/22, 10:38 AM							
8 Channel 1/2V Relay Module with Optocoupler		EC-6607	8536	1	Rs. 370.00	IGST (18%)	Rs.370.00
22AWG UL 3007 PVC Electronic Wire 1m (Black) + 1m (Red)		EC-8947	8544	2	Rs.48.00	IGST (18%)	Rs.96.00
DC 12V Solenoid Electromagnetic Cabinet Door Lock		EC-4889	8301	2	Rs.310.00	IGST (18%)	Rs.620.00
LM2596 DC-DC Buck Converter Adjustable Step Down Power Supply Module		EC-1564	8504	1	Rs.56.00	IGST (18%)	Rs.56.00
CP2102 USB 2.0 to TTL UART serial converter Module - 6 Pin		EC-6532	8517	1	Rs.178.00	IGST (18%)	Rs.178.00
TFT LCD Expansion Shield V2.2 for Arduino MEGA		EC-5021	8584	1	Rs.339.00	IGST (18%)	Rs.339.00
Waveshare 5 inch Capacitive HDMI LCD Display (H) 800x480		EC-5475	8471	1	Rs.3925.00	IGST (18%)	Rs.3925.00
					Sub-Total.		Rs.9,186.00
					Free Shipping		Rs.0.00
					IGST (18%)		Rs.1,653.48
					Total		Rs.10,839.48




This expenses for the project work under the mentorship of Dr. Anishan Bose and at prior permission the advance was taken from R & D budget head.

16/11/22

https://www.electronicshub.in/index.php?route=account/order/invoice&order_id=1083948

7 FACILITIES AND TECHNICAL SUPPORT (100)

7.1 Adequate and well equipped laboratories, and technical manpower (40)

Sr. No	Name of the Laboratory	Number of students per set up (Batch Size)	Name of the Important Equipment	Weekly utilization status (all the courses for which the lab is utilized)	Technical Manpower Support		
					Name of the Technical staff	Designation	Qualification
1	Lab 1 - Ada Ba	32	Desktop Comp	CS593-OOP L	Nayan Konar	Tech. Assistant	M.C.A.
2	Lab 2 - Turing I	32	Desktop Comp	PCC-CS494-D	Pranab Sinha	Online Program	M.C.A.
3	Lab 3 - Aryabh	32	Desktop Comp	CS393-PYTHC	Bappaditya Ch	Sr. Tech. Assis	P.G.D.C.A.
4	Lab 4 - Mahaln	30	Desktop Comp	CS393-PYTHC	Saikat Dey	Sr. Tech. Assis	M.C.A.
5	Lab 5 - Pascal	32	Desktop Comp	CS391-DS, ES	Pravash Das	Computer Lab.	Diploma in Cor
6	Lab 6 - Hollerit	32	Desktop Comp	ES-CS291-PR	Kallol Chatterje	Sr. Tech. Assis	Diploma in Ele
7	Lab 7 - Von Ne	30	Component De	PC CS392- Co	Indranil Bhatta	Sr. Tech. Assis	DOEACC A-LE

7.2 Additional Facilities Created for Improving the Quality of Learning Experience in Laboratories (20)

Sr. No	Name of the Facility	Details	Purpose for creating facility	Utilization	Relevance to POs/PSOs
1	Machine Learning	TensorFlow tool (Python, Anaconda, MATLAB License)	Student study feature based classification and regression patterns of the data	Students create socially useful final year projects.	PO6, PO7, PO8, PO9, P10, P11, P12, PSO1, PSO3, PSO4
2	Deep Learning	Deep neural networks using NumPy (Python, Anaconda, MATLAB License)	Application of Artificial Neural Network (ANN)	Used for complex learning problems which normally happens in case of human learning	PO1, PO2, PO3, PO4, PO5, P12, PSO3, PSO4
3	Cloud Computing	Cloud based API (Python, Anaconda, OpenAlapi and tools, MATLAB License)	Provides hands on exposure of cloud computing to the students	Utilized for better career opportunities and the implementation of project	PO1, PO2, PO3, PO4, PO5, P12, PSO3, PSO4
4	Think IOT Laboratory	Dedicated Hardware Laboratory with various hardware devices like Raspberry Pi, Arduino and several IOT sensors and components	Students are provided with hands-on orientation to IOT platforms and working with various sensors to orient them to research based projects.	Students participate in different research activities and get first-hand exposure to implementing such kind of projects.	PO1, PO2, PO3, PO4, PO5, P12, PSO3, PSO4
5	Hardware Laboratory	8085/8086 kit, Logic analyzer	Students can create low level programs and various arithmetic and logical operations.	Students get knowledge of low level programming and the practical implementation of arithmetic and logical operations.	PO1, PO2, PO3, PO4, PO5, P12, PSO3, PSO4

7.3 Maintenance of laboratories and overall ambience (10)

Maintenance of Laboratory Equipments	
Sl. No.	Activity Description
1.	Laboratories are well furnished.
2.	Laboratories are regularly cleaned, and systems are monitored maintained by the respective lab technician.
3.	Regular maintenance of computers and other equipment is carried out periodically every semester.
4.	Dos and Don'ts and safety measures rules are displayed in all laboratories.
5.	Minor repairs are carried out by the lab technician if required.
6.	Maintenance registers are available with the third-party maintenance contractor personnel deployed in the campus at the institution
7.	Maintenance and repairs are outsourced through the procedure at the institution level.
8.	No one is allowed to alter or delete configuration settings of the computer system.

Overall Ambience	
Sl. No.	Activity Description
1.	Laboratories are regularly cleaned.
2.	The laboratories are equipped with computers and equipment that are sufficient to conduct the experiments as per the affiliating University curriculum.
3.	Sufficient numbers of windows are available for ventilation and natural light.
4.	Lighting system is very effective along with natural light in every corner of the rooms.
5.	Power backup is available in the laboratories in case of power failure.
6.	Each Laboratory is equipped with white board, computer and internet facilities.
7.	Condition of the infrastructure is good and maintained properly
8.	Well cleaned and well-maintained work stations/equipments are available.
9.	Laboratories are fully Air conditioned.

7.4 Safety measures in laboratories (10)

Sr. No	Laboratory Name	Safety Measures
1	Lab 1 - Ada Basic Programming Laboratory	1. Anti-skid tiles. 2. MCBs to prevent short-circuit. 3. Emergency exit. 4. Fire extinguisher
2	Lab 2 - Turing Fundamental Computing Laboratory	1. Anti-skid tiles. 2. MCBs to prevent short-circuit. 3. Emergency exit. 4. Fire extinguisher
3	Lab 3 - Aryabhata Internetworking Laboratory	1. Anti-skid tiles. 2. MCBs to prevent short-circuit. 3. Emergency exit. 4. Fire extinguisher
4	Lab 4 - Mahalanobis Software Design Laboratory	1. Anti-skid tiles. 2. MCBs to prevent short-circuit. 3. Emergency exit. 4. Fire extinguisher
5	Lab 5 - Pascal Advanced Programming Laboratory	1. Anti-skid tiles. 2. MCBs to prevent short-circuit. 3. Emergency exit. 4. Fire extinguisher
6	Lab 6 - Hollerith Information Technology Laboratory	1. Anti-skid tiles. 2. MCBs to prevent short-circuit. 3. Emergency exit. 4. Fire extinguisher
7	Lab 7 – Von Neumann Computer Organization Laboratory	1. Anti-skid tiles. 2. MCBs to prevent short-circuit. 3. Emergency exit. 4. Fire extinguisher
8	Lab 8 – Project Laboratory	1. Anti-skid tiles. 2. MCBs to prevent short-circuit. 3. Emergency exit. 4. Fire extinguisher
9	Lab 9 – Research Laboratory	1. Anti-skid tiles. 2. MCBs to prevent short-circuit. 3. Emergency exit. 4. Fire extinguisher

7.5 Project laboratory/research laboratory /centre of excellence (20)

Sl. No.	Facility Name
1.	Project Laboratory – Room No. 242 [62.8 sq.m.] 30 Desktop PCs connected to the internet (Core i5, 8GB RAM, Windows 11 license, python, Anaconda, MATLAB License)
2	Research laboratory (Room No. 239) [26.03 sq. m.] 20 Workstation/Desktop PCs connected to the internet (Core i7, 16GB RAM, Windows 11 Pro license, python, Anaconda, MATLAB volume License)

8 CONTINUOUS IMPROVEMENT (80)

8.1 Actions taken based on the results of evaluation of each of the COs, POs & PSOs (40)

8.1.1 Actions Taken Based on the Results of Evaluation of the COs Attainment (20)

8.1.1 Actions Taken Based on the Results of Evaluation of the COs Attainment

The Department of Computer Science and Engineering follows a systematic Continuous Improvement (CI) mechanism as an integral part of Outcome Course Outcomes (COs), Program Outcomes (POs), and Program Specific Outcomes (PSOs) are periodically analysed to identify gaps and impleme

The department continuously reviews:

- CO attainment analysis
- PO/PSO attainment analysis
- Student feedback
- Employer feedback
- Alumni feedback
- Academic audit reports
- Placement statistics
- Research and innovation indicators

The identified gaps are addressed through:

- Pedagogical improvements
- Remedial classes organised
- Laboratory enhancement
- Faculty development initiatives
- Student support mechanisms
- Industry interaction activities

Process Adopted for CO Attainment Analysis

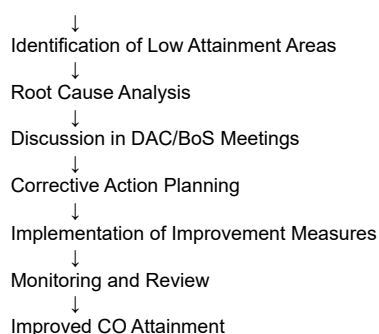
At the end of every semester, Course Outcome attainment is calculated using direct and indirect assessment tools. The Department Academic Committee (DAC) at target values.

The analysis focuses on:

- COs with lower attainment
- Difficult topics/concepts
- Weak performance trends
- Laboratory skill deficiencies
- Assessment pattern issues
- Teaching-learning gaps

Continuous Improvement Framework

CO Attainment Calculation



Sample Analysis of CO Attainment and Corrective Actions

Actions Taken Based on CO Attainment Analysis

Course	Identified Weakness	Root Cause Analysis	Action Taken	Improvement Observed
Computer Architecture	Low attainment in CO3 related to memory mapping and parallel architectures	Difficulty in conceptual knowledge	Conducted additional tutorial sessions	CO attainment improved

Automata	Low attainment in CO2 related to design of automata	Weak in design of turing machine	Conducted additional lecture on turing machine	CO attainment improved
Artificial Intelligence	Weak understanding related to Natural Language Processing	Difficulty in conceptual visualization	Remedial classes on NLP	CO5 attainment improved
Operating Systems	Low attainment in CO5 related I/O, Disc, File system management	Difficulty in understanding	Conducted additional tutorial sessions and lab assignments	CO attainment improved
Compiler Design	Low attainment in CO2, CO5 related to symbol table and code optimization and generation	Weak prerequisite knowledge	Revision classes conducted on automata and formal language	Improved average internal marks
Database Management Systems	Poor performance in CO5 related to design and implementation of database	Insufficient hands-on exposure	Added laboratory classes on SQL query	CO attainment improved
Computer Networks	Weak understanding in CO5 and CO6 related to subnetting and network design and implementation	Limited practical exposure	Packet tracer based laboratory practice introduced	Improved CO5 performance

Student Support System Improvements

The following support mechanisms were strengthened:

- Faculty mentoring system
- Slow learner support sessions
- Advanced learner enrichment programs
- Coding practice platforms
- Laboratory open access hours
- Technical clubs and student chapters
- Continuous counselling and academic guidance

8.1.2 Actions Taken Based on the Results of Evaluation of the POs/PSOs Attainment (20)

8.1.2. Actions Taken Based on the Results of Evaluation of the POs/ PSOs

Identify the areas of weakness in the program based on the analysis of POs & PSOs attainment levels. Measures identified and implemented assessment years.

POs & PSOs Attainment Levels and Actions for Improvement

POs	Target Level	Attainment Level	Observations
PO1: Engineering Knowledge: Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop the solution of complex engineering problems.			
PO1	2.5	2.63	Target level is achieved. More emphasis must be placed on relating the concepts of science and mathematics to practical applications. The following steps were planned to signify the current Attainment level.
Action 1: Students are strongly encouraged to use mathematical analysis to better understand and solve engineering problems. Action 2: Assignments were provided to students for a better understanding of engineering fundamentals and an engineering specialization. Action 3: Conducted workshop on "From Probability to Prediction: The Mathematical Roots of Machine Learning" on 28th Feb, 2025.			
PO2: Problem Analysis: Identify, formulate, review research literature, analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4).			
PO2	2.5	2.62	Target level is achieved. The acquisition of problem-solving and analysis across first-, second-, and third-year course students to effectively apply them in real-world scenarios. But a higher level of achievement was looked after. Thus, the following actions were
Action 1: Additional lectures are being conducted to present the core ideas needed to recognize, frame, review, and analyze complex engineering problems. Action 2: To improve their ability to analyze problems, seminars, workshops, and expert lectures were organized in a variety of engineering fields. Action 3: A research oriented Panel Discussion by the IEEE WIE Chapter was organised on 16 th July, 2025. Prof. Dr. Sheli Sinha Chaudhuri, Chair WIE, Kolkata Section from Jadavpur University, Prof. Debjani Mitra from IIT(ISM) Dhanbad, Prof. Nandini Mukherjee from Jadavpur University, Dr. Ranjini Menon, Scientific officer 'F' from VECC, Kolkata, Dr. Manjira Sinha, Senior Scientist from TCS Research & Innovation, Kolkata were present the guest speakers.			

PO3: Design/Development of Solutions: Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5)			
PO3	2.5	2.62	Target level is achieved. Different courses, such as DSA, DAA, AI, ar should be followed to design solutions to co engineering problems that involve various e
Action 1: Inspiring students to focus on originality in design while taking into account the relevant safety and environmental standards at both the national and international levels. Action 2: Industry-supported training programs were provided in accordance with memorandums of understanding.			
PO4: Conduct Investigations of Complex Problems: Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions (WK8).			
PO4	2.5	2.66	Target level is achieved.
Action 1: One add-on course named "Foundation of Data Science" has been developed, and several projects and case studies are designed to help students become more adept at interpreting and analyzing data. Action 2: Expert lectures on research methodology will be conducted. Action 3: Professionally-led seminars on data-gathering strategies, data-preprocessing techniques, and analytical software. Action 4: Suggested conducting workshops on SPSS, Talend, Tableau, etc.			
PO5: Engineering Tool Usage: Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6)			
PO5	2.5	2.62	Target level is achieved. It has been observed that enhancing tools & resources is imperative to align with industry and facilitate research endeavours.
Action 1: Conducted seminars on cutting-edge technologies in the field of Comp Science & Engineering. Action 2: Organized seminars on applications of AI/ML in various applications Action 3: Conducted Webinar / Seminar / Workshop on modern engineering tools Action 4: A Microsoft Azure Fundamentals (AZ-900) Training and Certification Course was conducted in collaboration with AEM technology from 19.02.2025 to 15.03.2025, and the certification examination was held on 23.04.2025. Action 5: One-day workshop on Linux Administration and Automation was held on 07.11.2024 Action 6: One-day workshop on Managing Azure Cloud with DevOps Technologies on 12.02.2025			
PO6: The Engineer and The World: Analyze and evaluate societal and environmental aspects while solving complex engineering problems for impact on sustainability with reference to economy, health, safety, legal framework, culture and environment. (WK1, WK5, and WK7).			
PO6	2.5	2.74	Target level is achieved. The department proposed courses respond to world demands for engineering education taking into account public health, workplace safety, and ethical considerations.
Action 1: Encouraging students to take part in a variety of extracurricular activities conducted by the department. Action 2: Conducted a presentation about the state of ethics in the modern world Action 3: Organized workshops on current trends of relevance of interdisciplinary courses in societal needs. Action 4: Student visits to industries that could benefit from engineering advancements are encouraged so that they may gain a better understanding of safety and social implications of these developments. In addition, students are constantly reminded of their societal duties as computer science engineers through required humanities classes. Action 5: The students were assisted in their analysis of the projects preliminary independent investigation and its societal impact through the use of a literature survey and actual case studies. Action 6: Students are encouraged to develop projects and guided to highlight the impact in societal and environmental contexts. Action 7: In almost all the courses, faculty members take additional classes to supplement content beyond syllabus where they give exposure to global development the concerned subject and their implications in economic, environmental, and social contexts. Action 8: Presented a Seminar on the Long-Term Sustainability of Software Development. Action 9: Presented a Seminar on "BREAKING FRAMES: On the UN Sustainable Development Goal 5 - Gender Equality" on 17th December 2025.			
PO7: Ethics: Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws (WK9).			
PO7	2.5	2.75	Target level is achieved. Attainment rates are improving and should, further progress, eventually reach the goal.

Action 1: For a comprehensive understanding of the social dimensions, industrial visits, industrial training, and internships are organized to enhance students practical knowledge and promote the adoption of improved engineering practice. These experiences also contribute to the development of professional ethics, responsibilities, and adherence to the norms of engineering practice.

Action 2: Various programs, such as the National Social Service Scheme, help students develop an understanding of their ethical principles and societal obligations.

Action 3: Expert-led seminars on business ethics for the software professionals.

Action 4: Seminar on Ethical Hacking and Morals for Software Professionals

PO8: Individual and Collaborative Team work: Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary team

PO8	2.5	2.79	Target level is achieved. Attainment rates are improving and should, further progress, eventually reach the goal.
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Action 1: In the final years projects, there is a special emphasis on teamwork a collaboration.

Action 2: Students were involved in organizing departmental events.

Action 3: A yearly reunion of the alumni is held, and students are actively encouraged to participate by taking on leadership roles in the planning process. gives them a chance to exercise abilities like leadership and teamwork in both individual and collaborative environments.

Action 4: Students participated on "BLUEPRINT 26, an Inter-College Technical P Presentation Competition" collaboratively on 5th May, 2025.

PO9: Communication: Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences.

PO9	2.5	2.76	Target is achieved. The students abilities in communicating to others, giving presentations, and writing reports will be developed further. Attainment rates are rising slowly but steadily, and it is hoped future efforts will be sufficient to reach the higher level.
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Action 1: Final year students present their software model and solution as a group enhancing their communication skills and ability to communicate their findings effectively.

Action 2: Conduct soft skill and personality development program classes in the regular session.

Action 3: Emphasis is given on innovative report writing, PowerPoint presentation with audio video

PO10: Project Management and Finance: Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.

PO10	2.5	2.65	Target achieved. Progressively, attainment rates have been steadily increasing, and it is hoped that continued work will be sufficient to reach the target rate.
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Action 1: Presentations are regularly given by software industry experts on the of effective team building and project management.

Action 2: Under the supervision of the project guide, students are supposed to submit proposals to project financing agencies.

Action 3: Students create a timeline for their courses after conferring with their project guide at the beginning. Project guides keep constant monitoring.

PO11: Life-Long Learning: Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking the broadest context of technological change. (WK8)

PO11	2.5	2.64	Target achieved. Projects that are part of the curriculum have helped the students to perform better in placement interviews.
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Action 1: Students are gradually introduced to abilities with long-term benefits through advanced-level training that is likely to remain relevant throughout the careers.

Action 2: Turning their project work into publications has aided them in advancing their higher studies.

Action 3: Students will be encouraged to register for GATE/ GRE/TOEFL and other competitive examinations.

Action 4: Conducted webinar on "ENIGMA 2025: Explore IoT Through Hands-On Learning and Expert Talks" on 16th May, 2025. Prof. (Dr.) Abhijit Debnath from UEM University was a speaker there.

Action 5: Conducted webinar on "ENIGMA 2025: Explore IoT Through Hands-On Learning and Expert Talks" on 16th May, 2025. Associate Prof. Dr. Sudip Saha from NIT Durgapur was there as a guest speaker.

Action 6: Students attended the "Finishing School Program on 3D Printing Additive Manufacturing Technology by C-DAC," scheduled for 7th May, 2025.

Action 7: A career counselling session was held on 25th February 2025, from 04:00 PM onwards, at Albert Einstein Hall for pre-final-year students of our college. Mr. Shishir Persai, senior faculty member of MADE EASY, was the key speaker of the session.

PSO 1: Apply principles of computer science to develop efficient computer solutions for complex real-world problems.

PSO 1	2.5	2.62	Target level is achieved. Students can apply what they have learned in Computer Science and other basic engineering topics in the projects demonstrated by their final-year projects, participated in Hackathons, and feedback from alumni and professors in the field. There is a minor deficiency in students' theoretical knowledge of algorithms, data structures, and problem-solving techniques in complex real-world scenarios.
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Action 1: We put more emphasis on the theoretical foundations of Computer Science & Engineering.

Action 2: The trade-offs involved in the design decisions of the required final-year projects were emphasized more significantly.

Action 3: Conducted additional problem-solving sessions, coding practice workshops, algorithm design exercises, and case-study-based assignments.

Action 4: Organize a coding competition in the tech fest.

PSO2: Design and develop reliable software systems using modern programming languages, tools, frameworks, and contemporary computer platforms.

PSO 2	2.5	2.62	Target level is achieved. Limited exposure to modern development practices, frameworks, and collaborative development environments. The rate of progress towards the desired level of achievement is increasing and is expected to accelerate in the near future.
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Action 1: Seminars/workshops on Blockchain, Cyber Security, Machine learning using Python, etc., are arranged on a regular basis.

Action 2: Organized industry-led workshops, coding boot camps, software testing sessions, and cloud computing laboratory exercises.

Action 3: Students of 6th and 8th semester attended Microsoft Azure Fundamentals (AZ-900) Training and Certification Examination with collaboration of AEM technology from 19th Feb, 2025 to 15th Mar, 2025 and the certification examination was conducted on 23rd Apr, 2025.

PSO 3: Integrate knowledge of modern and emerging computing technologies to build innovative and sustainable solutions for societal and industrial needs.

PSO 3	2.5	2.66	Target level is achieved. Limited awareness of sustainable and socially relevant technology solutions.
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Action 1: Organized expert lectures, industry seminars, societal problem-solving projects, and community-oriented technology development activities.

Action 2: Interactive Session on Careers in Cybersecurity, AI, and Project Management Certification "Voice of the Students with PMI" was organized on 28 February 2025. Esteemed Guests: Mr. Pallav Rahotgi from Zedroit, Mr. Jaydeep Chakraborty from TCS, Mr. Anutosh Ghosh from GroArche Learning Solutions, Mr. Pratik Kumar Singh from PMI West Bengal Chapter were present as key speakers.

8.2 Academic Audit and actions taken thereof during the period of Assessment (15)

8.2 Academic Audit and Actions Taken Thereof during the period of Assessment

Academic Audit Process

An Academic Audit is a systematic, evidence-based evaluation of a departments teaching and learning processes, faculty performance, student independent, quality-assured review that drives continuous improvement across all institutional functions.

PURPOSE

Purpose of Academic Audit

To verify and validate whether academic processes meet prescribed standards and to identify gaps for corrective action.

- Ensure compliance with NBA / NAAC / AICTE norms
- Validate course delivery and outcomes attainment
- Assess faculty qualifications and development
- Review student progression and placement records
- Evaluate feedback loops and their effectiveness

SCOPE

Scope of the Audit

Covers all components that influence the quality of education delivery and institutional governance.

- Department details - programmes, credits, semester structure
- Faculty strength, qualifications and workload
- Course file preparation and verification
- Student enrolment, scholarship, and placement data
- Research output: journals, conferences, FDPs

STAKEHOLDERS

Key Stakeholders

Multiple stakeholders participate in or are impacted by the audit process.

- External Academic Audit Experts (independent auditors)
- IQAC Coordinator
- HoD and senior faculty
- Program Coordinators (UG and PG)
- Students, Parents, and Alumni

STANDARDS

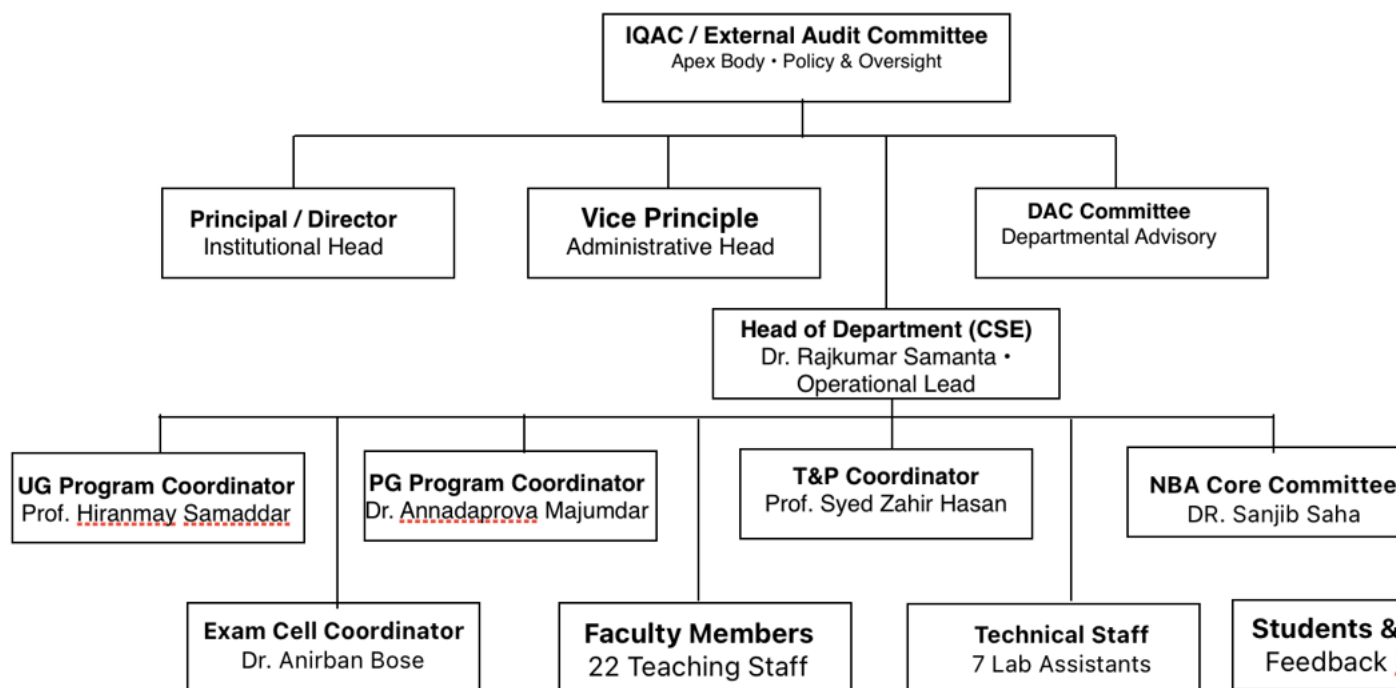
Governing Standards

The audit is aligned with multiple quality assurance frameworks and regulatory requirements.

- NBA - Outcome-Based Education framework
- NAAC - National Assessment & Accreditation Council
- AICTE - All India Council for Technical Education
- MAKAUT Affiliating University norms
- Institutional autonomy framework

Hierarchical Structure of Academic Audit

The following diagram represents the organizational flow of authority and responsibility within the academic audit framework



Step-by-Step Audit Process

Stage	Activity	Responsible	Documents / Evidence	Status
1. Pre-Audit Preparation	Compile all data: faculty records, workload, student details, course files, FDP certificates	HoD + Program Coordinators	Appointment letters, degree certificates, PAN records, DAC minutes	Complete
2. Department Details	Document all programmes, semesters, credits, theory/practical ratio	HoD	B.Tech: 113 theory + 47 practical credits	Verified
3. Faculty Audit	Review qualifications, designations, joining dates, specialisations, current association	IQAC + External Auditors	27 teaching staff; 1 Prof, 4 Assoc Prof, 22 Asst Prof	Verified
4. Workload Verification	Verify theory/lab hours, administrative duties, and DAC approval of workloads	HoD + DAC	Workload 15-22 hrs/week per faculty; approved in DAC meeting	Approved
5. Course File Audit	Check 16-component course files for all 45 courses across all semesters	Senior Faculty / Program Coordinator	56/56 files prepared; 56/56 internally verified; 0 modifications required	100%
6. Research & Publications	Review UGC/SCI/Scopus indexed journal papers and conference proceedings	Individual Faculty	11+ journal papers (SCI/Scopus/UGC); 33 conference papers published	Active

7. Student Data Audit	Verify enrolment, categories, scholarship, placement, internship, and GATE records	T&P + Exam Cell	201 students in 2024-28 batch; 56 placements in 2024-25; 3 Higher studies	Documented
8. Feedback Analysis	Compile and analyse student, parent, and alumni feedback; prepare ATR	Convener - Prof. Syed Zahir Hasan	100% student feedback collected; ATR prepared for even semester 2024-25	Done
9. Mentoring Review	Verify mentor-mentee assignments and records for all active batches	All Faculty	Mentor lists maintained for 2021-25, 2022-26, 2023-27, 2024-28 batches	Active
10. SWOT Analysis	Prepare departmental SWOC analysis identifying strengths, weaknesses, opportunities, challenges	HoD + Senior Faculty	Submitted as part of audit document with specific areas identified	Submitted
11. External Audit	Independent review by external auditors; cross-verification of claims with documents	External Auditors + IQAC	Geotagged photographs, event reports, signed faculty list, budget documents	Pending Sign
12. Post-Audit Report	Compile auditor comments, recommendations, and submit signed final report to IQAC	IQAC Coordinator	Final signed report with stamps - HoD, IQAC Coordinator, External Auditor	In Progress

Continuous Improvement: PDCA Cycle

The audit findings feed directly into a PDCA (Plan-Do-Check-Act) continuous improvement cycle, ensuring that each audit cycle drives measurable pr

Plan	Do	Check	Act
- Define POs, PSOs, COs and programme objectives - Prepare lesson plans and syllabus coverage schedules - Allocate subjects to faculty based on expertise - Design internal assessment components - Plan FDPs, workshops, and certification courses - Schedule mentor-mentee and parent meetings - Prepare departmental budget proposals	- Deliver theory and laboratory classes as per timetable - Conduct continuous evaluation (tests, assignments) - Run ICT-based and student-centric teaching methods - Carry out mentoring and counselling sessions - Conduct internship, placement drives, GATE training - Publish research papers and attend conferences - Organise departmental events: ENIGMA, CIACON, WIE	- Analyse semester-end student feedback (all years) - Review program-end exit survey of graduating batch - Verify course file completeness and syllabus coverage - Assess result data: CGPA, pass rates, backlog counts - Evaluate CO/PO attainment levels - Cross-check workload vs. actual delivery - Internal audit by senior faculty / HoD	- Prepare Action Taken Reports (ATRs) on feedback - Introduce remedial classes for weak learners - Update curriculum under autonomy framework - Add certificate/add-on courses for industry gaps - Re-evaluate dissatisfied students - Strengthen industry linkages for better internships - Incorporate external auditor recommendations

Key Audit Parameters

Academic Parameters

- Number of courses & credits per semester

- Theory to practical ratio
- Syllabus coverage percentage
- Course file preparation & verification
- CO-PO-PSO mapping and attainment
- Lesson plans and lecture schedules
- Assignment and tutorial quality
- E-learning module usage

Faculty Parameters

- Qualification and PAN verification
- Designation and promotion records
- Teaching workload (theory + lab hours)
- Administrative responsibilities
- FDP / training programme attendance
- Research publications (SCI/Scopus/UGC)
- Conference papers and book chapters
- PhD guidance and research supervision

Student Parameters

- Enrolment vs. sanctioned strength
- Category-wise and state-wise data
- Scholarship details
- CGPA and backlog tracking
- Placement records (company, LPA)
- Internship details (paid/unpaid, duration)
- Higher studies and GATE qualifications
- Student project titles and supervisors

Feedback Parameters

- Course-end feedback (semester-wise)
- Program-end exit survey (graduating batch)
- Student satisfaction survey
- Facilities feedback (lab, library, hostel)
- Action Taken Report (ATR) preparation
- Parent meeting records
- Alumni feedback integration

Infrastructure Parameters

- Number of classrooms and tutorial rooms
- Number of laboratories
- Computers for students and teachers
- Research instruments
- Library books and e-resources added
- New equipment and infrastructure
- Budget proposed vs. actual utilisation

Governance Parameters

- Departmental committee structure
- Minutes of DAC / departmental meetings
- MoUs, collaborations, consultancy
- Events: seminars, workshops, conferences
- Professional society memberships
- Anti-ragging, cultural, sports committees
- IQAC / NBA / NAAC documentation

Audit Findings - BCREC CSE Department (2024-25)

Key findings from the academic audit of the CSE department, drawn directly from the SWOC analysis and supporting data in the audit document.

STRENGTHS

- All 45 course files prepared and 100% internally verified
- 100% syllabus coverage and lab classes as per the timetable
- Active research: 20+ publications in SCI/Scopus/UGC journals
- Structured mentoring for all 4 batches (2021-28)
- High internship participation: 100% of final-year students
- Multiple GATE qualifiers and higher-study admissions (NIT Jamshedpur)
- Excellent 2024-28 batch YGPA — multiple students above 9.5

WEAKNESSES

- No sponsored research projects completed or ongoing
- Zero guest lectures reported for the year
- Limited alumni engagement in mentoring and curriculum development
- Some curriculum areas are not regularly updated with industry trends
- ISSN numbers are missing for several journal publications in the records
- ~84% students rated syllabus coverage at 75%+ — scope to improve

OPPORTUNITIES

- Expand industry collaborations (Infosys Springboard, RedHat active)
- Strengthen alumni network for mentoring and placement support
- Develop more soft-skills and communication workshops
- Interdisciplinary projects with ECE and other departments
- IEEE Student Chapter and WIE Chapter well-established — expand further
- CIACON conference can grow into a flagship research platform

CHALLENGES

- Motivating students towards research in fast-evolving AI/ML fields
- Securing higher salary package placements (above 6 LPA consistently)
- Rapid curriculum updates required to keep pace with GenAI, 6G, Quantum
- Bridging the gap between academic learning and current industry requirements
- Maintaining quality while managing large batch sizes

Implementation Roadmap for Continuous Improvement

A phased approach to translating audit findings into concrete institutional improvements across academic, research, and administrative domains.

Address ATR Recommendations from Even Semester 2024-25

Act on all action taken reports from feedback analysis. Introduce remedial classes for weak learners on a weekly basis. Ensure 100% completion of n at least 2 parent meetings per semester.

Curriculum Revision and Add-On Course Integration

Revise syllabi under the autonomy framework for outdated topics. Introduce add-on certificate courses in emerging areas (GenAI, Quantum Computing) guest lectures from industry and academia per semester to address the zero-guest-lecture gap.

Research Ecosystem Strengthening

Submit at least 2 sponsored project proposals (DST / AICTE / industry funded). Establish formal alumni mentoring programme with quarterly sessions CMERI. Target 100% faculty with at least one publication per year.

Industry-Academia Integration and Placement Enhancement

Sign formal MoUs with 5+ industry partners for live projects, internships, and campus recruitment. Target average placement package of 5+ LPA across (IAB) to guide curriculum updates. Establish a dedicated research lab for AI/ML and IoT projects.

Sustain the PDCA Loop

Ensure each academic year concludes with a full internal audit before the external audit. All feedback cycles must be completed with documented ATI and shared with NBA core committee. Budget utilisation report must match proposed heads within +/-10%.

Best Practices Supporting Continuous Improvement

PRACTICE 1

Structured Mentoring System

Each student is assigned a faculty mentor across all batches. Regular mentoring and career counselling sessions help identify at-risk students early and professional outcomes.

PRACTICE 2

Research-Oriented Culture

Students are encouraged to pursue research-driven final-year projects aligned with faculty research areas (ML, IoT, Image Processing, Network Security) students is actively promoted.

PRACTICE 3

Modern Teaching Methods

ICT-based teaching, flipped classrooms, interactive simulations, and TBT/SST-based training methods are used. 100% e-learning module availability

PRACTICE 4

360-Degree Feedback Mechanisms

Feedback is collected from students (course-end + program-end), parents, and alumni. All feedback is analysed with statistical charts and converted into persons identified.

Action Taken based upon Feedback for Academics for the even semester, AY2024-25

- The feedback on acquiring new technical or scientific knowledge demonstrated good adaptability in the teaching and learning process.
- Students were able to address problems related to their field of study by applying their skills and knowledge.
- The pupils greatly valued the engaging and successful lessons.

- Students have recognised that the lab is furnished with the required contemporary tools and equipment, and that the curriculum and laboratory € current economy.
- Positive comments were made about the student mentoring and counselling processes. Additionally, students overall communication skills impr

Action Taken based upon Course End feedback, AY 2024-25

The course-end feedback was collected from 1st-, 2nd-, 3rd, and 4th-year students on the courses they studied in the even semester of AY 2024-25. website.

Questions asked	Student's feedback	Action Taken
How much of the syllabus was covered in the class?	84% of the students agreed that about 75% of the syllabus had been covered	Faculties are advised to take additional classes to complete the syllabus
How well did the teachers prepare for the classes?	90% of the students are quite satisfied with the preparation of teachers during classes	Faculties are advised to use ICT for teaching learning purpose to create smart learning environment
How well were the teachers able to communicate?	83% of students are satisfied with the teachers communication	It has been advised to make the classes more interactive.
The teacher's approach to teaching can best be described as	87% of the students are satisfied with the teaching approach	Teachers are advised to adopt a more interactive approach to teaching
Fairness of the internal evaluation process by the teachers.	82% of the students are satisfied with the internal evaluation process	It is advised to re-evaluate a student in case of any dissatisfaction identified among the students about the evaluation process
Was your performance in assignments discussed with you?	88% of the students agreed about the discussion taken place for the assignments given to the students	Teachers are advised to focus more on continuous evaluation
The institute takes an active interest in promoting internships, student exchange, and field visit opportunities for students.	67% of the students agreed about institutes active interest to promote internship	The department takes necessary action to promote different internship program for the betterment of the students

The institute/ teachers use student centric methods, such as experiential learning, participative learning and problem solving methodologies for enhancing learning experiences.	70% of the students agreed that teachers use student centric methods for enhancing learning experiences	Teachers are advised to take different teaching learning methodologies to make the learning process more student centric
Teachers are able to identify your weaknesses and help you to overcome them.	76% of the students said that teachers identifies their weakness and help them to deal with that	Teachers are advised to identify strength and weakness of student and take remedial classes to overcome students weakness and provide right level of challenges.
The teachers illustrate the concepts through examples and applications.	84% of the students agreed with the explanation of concepts through proper examples	Teachers are advised to illustrate concepts through examples.

8.3 Improvement in Faculty Qualification/Contribution (15)

Academic Performance	CAYm1 (2024-25)	CAYm2 (2023-24)
No. of faculty members with Ph.D. degree	12.00	13.00
No. of publications in peer reviewed journals	11.00	18.00
No. of publications in conferences	33.00	27.00

8.4 Improvement in Academic Performance (10)

Academic Performance	CAYm1 (2024-25)
Academic Performance Index (API) of the First-Year Students in the Program (Refer to section 4.3)	7.76
Academic Performance Index (API) of the Second-Year Students in the Program (Refer to section 4.4)	7.37
Academic Performance Index (API) of the Third-Year Students in the Program (Refer to section 4.5)	7.54

9 STUDENT SUPPORT AND GOVERNANCE (120)

9.1 First Year Student-Faculty Ratio (FYSFR) (5)

Please provide First year faculty information considering load

Name of the faculty member	PAN No.	Qualification	From Engineering Courses	Date of Receiving Highest Degree	Area of Specialization	Designation
Dr. Saurav Rar	AGRPD8406C	Ph.D	No	10/08/2000	Reaction Engineering	Associate Professor
Dr. Jayanta Pa	ANTPP9421C	Ph.D	No	07/12/2005	Solar Photovoltaic Cell	Associate Professor
Dr. Subhashish	ARNPP9369F	Ph.D	No	28/09/2024	Electronics	Associate Professor
Dr. Santanu Ku	BHHP3276Q	Ph.D	No	28/12/2009	Nanotechnology	Assistant Professor
Dr. Arnab Banc	AQPPB1030J	Ph.D	No	03/09/2015	Statistical Sample Surveys	Associate Professor
Subhadra Deb	ASOPD5859N	M.Tech	Yes	24/06/2016	Microstrip Antenna Design	Assistant Professor
Dr. Shashi Baj	ASKPB2346N	Ph.D	No	31/07/2014	Biostat Fuzzy theory MCDM	Assistant Professor
Dr. Sourav Bh	BSBPB0525R	Ph.D	No	23/06/2015	Organic Polymer Chemistry	Assistant Professor
Dr. Avijit De	AWHPD3883B	Ph.D	No	11/09/2021	Fuzzy MCDM	Assistant Professor
Dr. Jaya Mukh	ARNPB7192E	M.SC. (Mathematics) and PhD	Yes	15/09/2021	Operations Research and Game theory	Assistant Professor
Dr. Kushal Roy	BPIPR7933F	Ph.D	Yes	02/09/2023	Fixed Point Theory Nonlinear Functional Analysis	Assistant Professor
Dr. Taniya Cha	ARNPC2223P	M.A and Ph.D	Yes	10/10/2013	English	Assistant Professor
Dr. Abhik Mukh	BCQPM3280B	Ph.D	Yes	01/10/2001	Business Communication Teaching	Assistant Professor
Sreejata Sen S	BZPPS3368N	M.Sc	No	01/10/2001	Advanced Fluid Mechanics	Assistant Professor
Sukarna Dey M	AUMPD7885L	M.Sc	No	03/03/2011	Operations Research	Assistant Professor
Sudip Kumar C	AUJPG1413G	M.Phil	No	05/10/2010	BioMathematics Operations Research Fuzzy theory MCDM	Assistant Professor
Debadrita Sen	BMHPS9619F	MA	No	14/02/2023	Business Communication	Assistant Professor
Sarabjeet Lahii	ACUPL4783F	MA	No	10/07/2003	Business Communication	Assistant Professor
Dibyendu Sah	EZTPS9083P	MA	No	20/06/2019	Environmental Humanities	Assistant Professor
Dr. Sanjay Kun	BDHPS0245L	Ph.D	Yes	03/02/2020	ELECTRICAL ENGINEERING	Assistant Professor
Dr. Sneha Sult	BCOPS5964G	Ph.D	Yes	27/08/2019	Thermal Engineering	Assistant Professor
Dr. Sourav Pal	AWLPP3906H	Ph.D	Yes	27/08/2019	ELECTRICAL ENGINEERING	Assistant Professor
Dr. Soham Dey	BDCPD4204P	Ph.D	Yes	28/09/2024	Fractional order control System	Assistant Professor
Dr. Sukalpa De	AKVPD7819D	Ph.D	No	17/02/2003	Chemical Kinetics	Assistant Professor
Sunil Kr Choud	AIPPC5522L	M.Tech	Yes	12/06/2007	Industrial Electrical System	Assistant Professor
Dr. Sarit Pal	AJNPP9675N	Ph.D	No	03/05/2001	Optical communications	Professor
Dr. Pallabi Maji	CNJPM8803P	Ph.D	No	14/05/2025	Health Humanities and Gender Studies and Trauma Studies	Associate Professor
Dr. Shibendu M	AOEPM1230J	Ph.D	Yes	24/08/2021	Electronics	Assistant Professor

Madhurima Ra	BARPB5461J	M.Sc	No	30/11/2011	Microbiology	Associate Professor
Dr. Madhusree	BSXPK0130R	Ph.D	No	27/07/2013	Physics	Assistant Professor
Prof. Siddharth	ASXPG7367H	M.Tech	Yes	11/06/2011	ELECTRICAL SYSTEM	Assistant Professor
Debayan Gaye	DOIPG8383H	M.Sc	No	07/02/2021	Conservation Biology	Associate Professor
Prof. Adhit Roy	ALMPR8341L	M.Tech	Yes	20/02/2015	Power System	Assistant Professor
Sohini Ghosh	ANSPG1514G	MA	No	07/11/2013	Economics	Assistant Professor
Dr. Dharmadas	BUZPM3445H	Ph.D	No	30/05/2023	OPERATION RESEARCH and SUPPLY CHAIN MANAGEMENT	Assistant Professor
Dr. Tushnik Sai	CYXPS0616R	Ph.D	Yes	08/06/2019	Signal Processing	Assistant Professor
Dr. Sandipan C	AEWPG4488A	MSW and PhD	No	17/06/1999	Applied Mathematic	Professor
Prof. Basudeb	AUPPM1204K	M.E.	Yes	16/02/2009	Power System	Assistant Professor
Moutusi Mondal	BEAPM2855Q	MS	Yes	08/08/2009	ECE	Assistant Professor
Dr. Chandan P	BRBPP5854N	Ph.D	Yes	11/07/2022	Electrical Engineering	Assistant Professor
Nilkamal Bhuni	APOP6815B	M.E.	Yes	24/12/2008	ECE	Assistant Professor
Surajit Batabyal	AMNPB1750H	M.Tech	Yes	24/06/2016	Microstrip Antenna Design	Assistant Professor
Prof. Mou Das	ANTPM5616L	M.Tech	Yes	18/09/2010	Industrial Electrical System	Assistant Professor
Dr. Dola Sinha	BLYPS2718B	Ph.D	Yes	23/02/2013	Power Electronics	Associate Professor
Moloy Mukherjee	AOPPM6752L	M.Tech	Yes	01/09/2014	Signal Processing	Assistant Professor
Dr. Kamalika Ti	AFLPT3105K	Ph.D	Yes	21/01/2019	MOS Sensor Fabrication and Precise Agriculture and Smart agriculture and Intrigation of Blockchain concept with IoT	Assistant Professor
Pradipta Sarka	CDGPS2731H	M.Tech	Yes	24/09/2011	Microelectronic and VLSI Design	Assistant Professor
Dr. Anirban Ch.	AHJPC9839P	Ph.D	Yes	28/09/2024	Signal processing	Assistant Professor
Dr. Soumen Bis	AUQPB1278B	Ph.D	Yes	23/09/2022	Control System	Assistant Professor
Samujiwal Ray	AIMPR3568C	M.Tech	Yes	15/05/2008	Signal Processing	Assistant Professor
Saradindu Mor	AJOPM5332L	M.Tech	Yes	01/08/2007	ELECTRICAL ENGINEERING	Assistant Professor
Dr. Alope Saha	BMMPS9772E	M.E. and Ph.D.	Yes	02/11/2015	VLSI Design	Professor
Soumendra Pa	BSLPP3196A	M.Tech	Yes	20/02/2015	Electronics and Communication Engineering	Assistant Professor
Dr. Manoj Kunc	AYIPK2632G	Ph.D	Yes	08/12/2018	Manufacturing	Assistant Professor
Dr. Rupali	DFOPS2783N	Ph.D	Yes	11/05/2018	Machine Design	Assistant Professor
Dr. Arka Banerjee	BLWPB5352G	Ph.D	Yes	26/12/2025	Machine Design and Fluid Dynamics	Assistant Professor
Dr. Chitta Saha	CDQPS2784C	Ph.D	Yes	02/06/2026	Fluid and Thermal Engineering	Assistant Professor
Dr. Ardhendu s	ACKPC2376F	Ph.D	Yes	02/01/2021	Mobile Adhoc Network	Assistant Professor
Siddhartha Bhattacharya	AOQPB4173B	M.Tech	Yes	22/11/2013	Design and Production	Assistant Professor

Subhajit Bhatta	ATBPB7269A	M.Tech	Yes	08/03/2008	Production Engineering	Assistant Professor
Koustav Roy	ARPPR0606R	M.Tech	Yes	08/11/2008	Control System	Assistant Professor
Dr. Subrata Sa	BCOPS5964G	Ph.D	Yes	20/06/2013	Fluid and Thermal Engineering	Assistant Professor
Dr. Rajeev Rar	AUTPR3061R	Ph.D	Yes	01/10/2021	Manufacturing Technology	Assistant Professor
Dr. Prasenjit M	BFMPM4642E	Ph.D	Yes	21/05/2026	Computer Science	Assistant Professor
Devlina Karma	CLLPK5711N	M.Tech	Yes	22/07/2021	Computer Science	Assistant Professor
Raja Dey	ATRPD7503K	M.E.	Yes	24/12/2013	Deep Learning	Assistant Professor
Ram Prasad C	AIDPC4394E	M.Tech	Yes	28/12/2012	INFORMATION TECHNOLOGY	Assistant Professor
Suman Dasgupta	AJZPD0181B	M.Tech	Yes	07/11/2009	Computer Science	Assistant Professor
Prabal Kumar Das	BDTPS6011E	M.E.	Yes	09/07/2005	Multimedia	Assistant Professor
Dr. Chandan B	BAPPB0986G	Ph.D	Yes	29/07/2019	Quantum Computing	Associate Professor
Dr. Moumita Pr	BKHPS4510D	Ph.D	Yes	04/04/2019	Computer engineering	Assistant Professor
Dr. Sovan Bhal	AYIPB3518N	Ph.D	Yes	28/09/2024	Citation Network and Machine Learning and Deep Learning and NLP and LLM and IoT and Blockchain Technology	Assistant Professor
Dr. Goursundar	AUVPM2047E	Ph.D	Yes	15/12/2017	Computer Science	Professor
Dr. Saibal Majumdar	APBPM4093D	Ph.D	Yes	25/03/2019	Evolutionary Computing Uncertain Optimization Machine Learning	Assistant Professor
Biswajit Saha	AYWPS4576R	M.E.	Yes	24/12/2004	Software Engineering	Assistant Professor
Banashree Chatterjee	BBLPC7516E	M.Tech	Yes	19/08/2020	Computer Science	Assistant Professor
Dr. Arnab Banerjee	BHTPB5890C	Ph.D	Yes	29/11/2024	Deep Learning and Computer Vision and Pattern Recognition	Assistant Professor
Kinshuk Banerjee	ATPPB8395R	M.Tech	Yes	22/11/2013	Computer Science	Associate Professor
Arya Manikya Das	MUJPS9587D	M.E.	Yes	24/12/2025	Computer Science	Assistant Professor
Dr. Soham Bar	ARQPB1839F	M.Tech	Yes	04/12/2025	Computer Science	Assistant Professor
Dr. Subir Panja	AQJPP9817D	Ph.D	Yes	02/06/2023	Computer Science	Associate Professor
Sudipta Samar	BDDPS6782G	M.Tech	Yes	26/05/2010	Computer Science	Assistant Professor
Amit Kumar Mondal	DGCPM9730A	M.Tech	Yes	08/03/2023	Computer Science	Assistant Professor
Koushik Senapati	ASBPS0236K	M.Tech	No	11/06/2004	Solid Mechanics	Associate Professor
BHOLANATH Chatterjee	BKDPG0716R	M.Sc	No	29/11/2012	Physics	Assistant Professor
DR. SAMYA NATH	AGTPN2190F	Ph.D	No	06/08/2024	Physics	Assistant Professor
UJJAL KAR	BXCPK1424N	M.Sc	No	20/11/2012	Chemistry	Assistant Professor
DR. ARNAB CHATTERJEE	BCEPC7437G	Ph.D	No	04/10/2021	Chemistry	Assistant Professor
Saindhab Chat	AIRPC6959M	B.Tech	Yes	11/08/2008	Computer Science and Engineering	Assistant Professor

Biswajit Monda	AUNPM6667J	M.Tech	Yes	09/11/2011	Network Security	Assistant Professor
Ruma Ghosh	ANLPG1141L	M.Tech	Yes	24/12/2009	CSE	Assistant Professor
KUNTAL SARKAR	KXJPS9112R	M.Tech	Yes	01/01/2024	CSE	Assistant Professor
DR. BAPPADIT	AFGPD2977D	Ph.D	Yes	01/04/2025	CSE	Assistant Professor
DR. ARINDAM	AIHPG6610M	Ph.D	Yes	23/07/2021	Machine Learning	Associate Professor
KALPANA ROY	ATKPR6377G	M.Tech	Yes	07/08/2009	Network and Data Security	Assistant Professor
Paragkanti Chatterjee	ALQPC9087J	M.Tech	Yes	11/05/2011	Machine Learning	Assistant Professor
Susanta Karmakar	ATPPK5794H	M.Tech	Yes	31/05/2013	Multimedia	Assistant Professor
Priyanka Sarkar	MZYPS2092H	M.E.	Yes	15/08/2025	IOT	Assistant Professor
Biswadev Goswami	AMRPG9393F	M.Tech	Yes	04/05/2009	Image Processing	Assistant Professor

Year	Sanctioned intake of all UG programs (S4)	No. of required faculty (RF4= S4/20)	No. of faculty members in Basic Science Courses and Applied Sciences including Management courses (I)
2023-24(CAYm2)	690	34	0
2024-25(CAYm1)	840	42	0
2025-26(CAY)	840	42	0

9.2 Mentoring system (5)

Mentoring System

In an educational institution, a well-structured mentoring system is essential for the holistic development of students. The primary goal of such a system is to provide personalized support, guidance, and resources to students, enabling them to overcome academic and personal challenges. This, in turn, helps them to achieve their potential both academically and in their professional lives. All faculty members in our department as well as in our institute actively serve as mentors, providing guidance and support to students and foster a strong and positive student-teacher relationship throughout the students' academic journey.

Features of the Mentoring System

Assignment of Faculty Mentors: In our department, each student is assigned a faculty mentor at the beginning of the academic term. Acting as advisors, they provide guidance on academic paths, personal development, and career planning. Each faculty member mentors 14 to 16 students, depending on the student-teacher ratio.

Regular Interaction and Progress Monitoring: Mentors hold regular sessions with students, creating a consistent communication channel for guidance and support. These meetings help track academic performance, address learning challenges, and provide constructive feedback. At least 3 - 4 meetings are arranged by mentors for their mentee in each semester. In isolated cases, parents are called for counseling and their special meeting with the HOD at the suggestion of the mentor.

Personal and Professional Development: The mentoring system aims to foster both personal growth and professional skills. Mentors often encourage students to participate in extracurricular activities, workshops, and seminars to enhance soft skills and technical knowledge. Additionally, career guidance is provided to help students plan for internships, higher studies, or job placements.

Assistance during Challenges: Mentors provide critical support for students facing academic, emotional, or personal challenges. They help connect students with appropriate resources, such as counseling services, peer study groups, or tutoring. Together with the student, they develop strategies to address these challenges, fostering resilience and confidence.

This continuous mentoring spans all 8 semesters of the B. Tech program, ensuring that each student receives guidance tailored to their specific needs and aspirations.

Focus Areas of Mentoring:

1. Academic Progress:

- Regular mentoring after internal assessments and semester exams (CA1–CA4 and End-Sem).
- High achievers are encouraged to aim for university ranks and offered leadership in peer mentoring.
- Slow learners are identified and supported through remedial classes, peer-learning, and subject-specific coaching.
- Recognition through scholarships, certificates, and awards for toppers and meritorious students.

2. Co-curricular Progress:

- Students are guided to participate in technical workshops, inter-departmental projects, seminars, symposiums, value-added courses, and competitions.
- Faculty mentors suggest suitable events and track participation.

3. Extra-curricular Progress:

- Students are motivated to join clubs, NSS and participate in activities such as sports, arts, music, drama, and photography.
- Students engage in social responsibility initiatives such as tree plantations, cleanliness drives, blood donation camps, and NGO activities.
- These engagements develop personality, teamwork, and confidence.

Effectiveness and Outcomes of the Mentoring System:

Academic Enhancement:

- Significant improvement in academic performance and test scores
- Reduced failure rates and increased university rank holders

Improved Attendance and Discipline:

- A noticeable increase in attendance percentage and classroom discipline
- Students are more accountable due to continuous mentor monitoring

Holistic Development:

- Better engagement in co-curricular and extracurricular activities
- Stronger personal values and civic sense due to social initiatives

Career Readiness:

- Improved placement outcomes and higher education admissions
- Many students have cleared competitive exams and started their own ventures

Positive Student-Teacher Bond:

- Enhanced trust and communication between students and mentors
- Mentors are approachable, and students are comfortable sharing concerns

Parental Involvement:

- Regular updates and meetings help keep parents informed and involved in their ward's progress

Mentoring Book:

- After collecting all necessary information, such as mobile number, email address, guardians contact number, etc., mentors maintain and update the Mentoring Book following regular sessions with students. A sample of the Mentoring Book is provided below.
- Overall, the mentoring system has proven effective in supporting students academic, personal, and professional growth, fostering a positive and nurturing environment that aligns with the institution's goals.

Table 9.2a: Ratio of Students to Mentor for academic year 2025-26

COMPUTER SCIENCE AND ENGINEERING			
Year	Number of students	Number of fulltime teachers	Mentor: Mentee Ratio
2025-26	649	27	24.0
CIVIL ENGINEERING			

Year	Number of students	Number of fulltime teachers	Mentor: Mentee Ratio
2025-26	136	11	12.4
ELECTRICAL ENGINEERING			
Year	Number of students	Number of fulltime teachers	Mentor: Mentee Ratio
2025-26	381	20	19.1
ELECTRONICS AND COMMUNICATIONS ENGINEERING			
Year	Number of students	Number of fulltime teachers	Mentor: Mentee Ratio
2025-26	449	28	16.0
INFORMATION TECHNOLOGY			
Year	Number of students	Number of fulltime teachers	Mentor: Mentee Ratio
2025-26	220	10	22.0
MECHANICAL ENGINEERING			
Year	Number of students	Number of fulltime teachers	Mentor: Mentee Ratio
2025-26	181	16	11.3
COMPUTER SCIENCE AND ENGINEERING (CS)			
Year	Number of students	Number of fulltime teachers	Mentor: Mentee Ratio
2025-26	94	4	23.5
COMPUTER SCIENCE AND ENGINEERING (ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING)			
Year	Number of students	Number of fulltime teachers	Mentor: Mentee Ratio
2025-26	183	6	30.5
COMPUTER SCIENCE AND DESIGN			
Year	Number of students	Number of fulltime teachers	Mentor: Mentee Ratio
2025-26	214	9	23.8
COMPUTER SCIENCE AND ENGINEERING (DATA SCIENCE)			
Year	Number of students	Number of fulltime teachers	Mentor: Mentee Ratio
2025-26	231	10	23.1
MASTERS OF BUSINESS ADMINISTRATION			
Year	Number of students	Number of fulltime teachers	Mentor: Mentee Ratio
2025-26	127	8	15.875
MASTERS OF COMPUTER APPLICATIONS			
Year	Number of students	Number of fulltime teachers	Mentor: Mentee Ratio
2025-26	181	7	25.9

Table 9.2b: Sample Mentor-Mentee List of 2024-2028 batch of CSE department

<u>Dr. B. C. Roy Engineering College, Durgapur</u>						
<u>Computer Science Engineering</u>						
<u>Batch 2024-2028</u>						
SLN o.	Univ. Roll No	Student Name	College Roll No.	Email	Mobile	Mentor Name

1	120001244001	AASHISH ANAND	2403133	aashishanand68097@gmail.com	9471953969	Prof. Rajib Kumar Mondal
2	120001244002	ABHIJAY ANAND	2403038	abhijaykumaranand@gmail.com	7688968360	
3	120001244003	ABHIJIT KARMAKAR	2403005	abhijitkarmakarop1@gmail.com	9531617232	
4	120001244004	ABHIRUP SAHA	2403037	abhirups467@gmail.com	7363927534	
5	120001244005	ABHISHEK DAS	2403122	dasabhishekfewgram@gmail.com	9832699393	
6	120001244006	ABHISHEK KUMAR	2403047	mrabhishekkumar81624@gmail.com	9060981823	
7	120001244007	ABHISHEK KUMAR SINGH	2403019	abhishekkrsingh1330@gmail.com	9907177478	
8	120001244008	ADITYA VARDHAN	2403116	aditya.vardhan.494@gmail.com	6207772863	
9	120001244009	AHILI BOSE	2403035	ahilibose@gmail.com	9474310154	
10	120001244010	AKASH DEY	2403053	akashdey9474@gmail.com	8346844102	Prof. Dr. Anirban Bose
11	120001244011	AKASH RANJAN	2403061	akashranjan7074@gmail.com	9304425121	
12	120001244012	AMARTYA HALDER	2403171	amartyahalder2004@gmail.com	7478144809	
13	120001244013	AMIT KUMAR	2403132	amitkumar349510@gmail.com	7543094455	
14	120001244014	AMIT KUMAR PANDEY	2403129	amitrjn68@gmail.com	9341192766	
15	120001244015	AMRIT RAJ	2403034	amritraj910@gmail.com	9942660997	
16	120001244016	ANANYA DHIBAR	2403152	ananyadhbar1@gmail.com	9800941738	
17	120001244017	ANCHAL KUMARI	2403052	keshrianchal7@gmail.com	9693817181	
18	120001244018	ANIKET KUMAR SINGH	2403189	aniketsinghrajput5544@gmail.com	7872464976	Prof. Kuntal Sarkar
19	120001244019	ANISH MONDAL	2403015	mondalanish456@gmail.com	7076000456	
20	120001244020	ANKIT KUMAR	2403062	ankit875595@gmail.com (mailto:ankit875595@gmail.com)	9576125025	
21	120001244021	ANKIT KUMAR PANDEY	2403078	ankitkumarpandey802204@gmail.com	8076333147	
22	120001244022	ANKITA KUNDU	2403182	ankitakundu098ak@gmail.com	9332426248	
23	120001244023	ANKITA SINHA	2403073	ankitasinha10a7@gmail.com	8617307509	
24	120001244024	ANTARJIT CHAKRABORTY	2403049	antarjit.chakraborty2006@gmail.com	9339529568	
25	120001244025	ANUSHKA RAY	2403091	karabi.roy431@gmail.com	8918243630	
26	120001244026	ANUSHREE MUKHERJEE	2403011	anushreemukherjee8900@gmail.com (mailto:anushreemukherjee8900@gmail.com)	8900571292	
27	120001244027	ARANYA PARAI	2403102	aranya05parai@gmail.com	9883730880	Prof. Dr. Deepa Naik
28	120001244028	ARGHYA NAYAK	2403183	arghya05nayak@gmail.com	9339590560	
29	120001244029	ARITRA KARMAKAR	2403094	samir1.karmakar@gmail.com	7076562232	
30	120001244030	ARKA BHATTACHAYA	2403093	arkabhattacharya2004@gmail.com	9932216123	
31	120001244031	ARNAV DEEP	2403165	deeparnav777@gmail.com	9931131987	
32	120001244032	ARPAN BHATTACHARYA	2403003	arpanshow5@gmail.com	7908554488	
33	120001244033	ARPAN DHARA	2403020	arpandhara294@gmail.com	8918290236	
34	120001244034	ARUNAVA CHATTERJEE	2403083	bubunchatterjee3250@gmail.com	9800455708	
35	120001244035	ARUNAVA RUJ	2403029	arunavaruj1@gmail.com	8617819672	
36	120001244036	ASHIRWAD KUMAR	2403153	ashirwadsingh448@gmail.com	9693290043	Prof. Dr. Anandaprova Majumder
37	120001244037	ASHWIN RAJ GUPTA	2403068	praveenmeenagupta@gmail.com	7488623106	
38	120001244038	ATANU ROY	2403172	ofire1048@gmail.com	6297511324	
39	120001244039	AVINASH KUMAR PATHAK	2403110	pathk.avinash@gmail.com	7903621307	
40	120001244040	AYUSH KUMAR SEN	2403112	ayush2006sen@gmail.com	9679343371	
41	120001244041	AYUSH LOHANI	2403141	ayushlohani489@gmail.com	9832815660	
42	120001244042	AYUSH RAJ	2403186	ayushrajraj12v@gmail.com	9334911636	
43	120001244043	BAIBHAV KUMAR MISHRA	2403161	baibavmishra1@gmail.com	9693437264	
44	120001244044	BAISAKHI MONDAL	2403039	b6904744@gmail.com	6296932510	
45	120001244045	BIDHUSOUMYA MONDAL	2403178	bidhusoumya1r@gmail.com	9476325566	Prof. Hiranmay Samaddar
46	120001244046	BINAY DUARY	2403125	binayduary812006@gmail.com	8120372699	
47	120001244047	BIPUL GHOSH	2403059	uttamghosh41551@gmail.com	9749946831	
48	120001244048	BISHAKHA DUTTA	2403089	duttabishakha24@gmail.com	9883925738	
49	120001244049	BISHNU GUIN	2403180	guinbishnu@gmail.com	9749437794	
50	120001244050	BRATIN BANERJEE	2403090	bratinbanerjee2@gmail.com	6297110757	
51	120001244051	DEBANKAN MUKHERJEE	2403013	mukherjeedebankan2020@gmail.com	9475744510	
52	120001244052	DEBDUT SAMANTA	2403103	debdutsamanta57@gmail.com	6297964436	
53	120001244053	DEBJYOTI DAN	2403159	souvikdan182@gmail.com	7872789535	

54	120001244054	DEBNATH NANDI	2403187	debnathnandi78@gmail.com	9883513949	Prof. Dr. Sanjib Saha
55	120001244055	DEBOMITA SINGHA	2403196	singhadebarata31@gmail.com (mailto:singhadebarata31@gmail.com)	8116187620	
56	120001244056	DEEPIJIT BOURI	2403139	deepjit811606@gmail.com	9382895395	
57	120001244057	DISHA SAHA	2403009	ranishasaha20@gmail.com	8942898699	
58	120001244058	DIVYA KUMARI	2403024	divyapathak812@gmail.com	8434916205	
59	120001244059	DIVYANSHU	2403142	divyanshushivam333@gmail.com	9470643117	
60	120001244060	DURGESH BANERJEE	2403181	durgeshb200724@gmail.com	8900397944	
61	120001244061	GAURAV KUMAR SINHA	2403065	gauravsinha451@gmail.com	8235037561	
62	120001244062	GOURAV KUMAR	2403135	gouravkumar7739487451@gmail.com (mailto:gouravkumar7739487451@gmail.com)	6205693251	Prof. Ruma Ghosh
63	120001244063	GUNJAN BHATTACHARYA	2403023	rishibhattacharyaa@gmail.com	9002477264	
64	120001244064	HIRAN GUHA MAZUMDAR	2403150	hiranguhamazumdar@gmail.com	9851870669	
65	120001244065	JEET MUKHERJEE	2403191	goutammukherjee345@gmail.com	8918471757	
66	120001244066	JOYDEEP SHARMA	2403176	joydeepsharma2006@gmail.com	9641870384	
67	120001244067	JYOTIRMOY GHOSH	2403146	ghoshjyotirmoy526@gmail.com	9064259109	
68	120001244068	KAMNA KUMARI	2403036	kamnamadan04@gmail.com	9241048268	
69	120001244069	KESHAV SHARMA	2403119	keshavsharma9918@gmail.com	9334740753	
70	120001244070	KHUSI SAM	2403028	khusisam21@gmail.com	9382965091	Prof. Sayan De
71	120001244071	KINGSHUK GOSWAMI	2403173	kingshukgoswami1234@gmail.com	9907961053	
72	120001244072	KOUSHAL KASHYAP	2403162	kk5566682@gmail.com	7250854374	
73	120001244073	KOYEL CHANDRA	2403124	koyelchandra1803@gmail.com	8900755906	
74	120001244074	KOYEL RAY	2403175	raykoyel16@gmail.com	6296226241	
75	120001244075	KUMARESH BASU	2403155	kumareshbasu123@gmail.com	8388058498	
76	120001244076	MABIYA PARWEEN	2403163	mabiyaparween16@gmail.com	6206541601	
77	120001244077	MAITRI MIDYA	2403067	maitrimidya@gmail.com	6296644768	
78	120001244078	MANDIRA MONDAL	2403063	malamondal086@gmail.com	7679562242	Prof. Biswadeb Goswami
79	120001244079	MIR SOHA PARVEEN	2403096	sohaparveen51@gmail.com	7001556822	
80	120001244080	MOHAMMAD JAHID	2403022	mojahid89698@gmail.com	8969811134	
81	120001244081	MOUMIT MONDAL	2403185	mondalmoumit93@gmail.com	9933057191	
82	120001244082	MOUSUMI KHATUN	2403057	mousumikhatun01234@gmail.com	8972327261	
83	120001244083	MRINAL KANTI DAS	2403143	dasmrinal878@gmail.com	9339751530	
84	120001244084	MRINAL PARASHAR	2403157	mrinalparashar06@gmail.com	6204822273	
85	120001244086	NANDINI DAS	2403194	nandinidas5868@gmail.com	8144168771	
86	120001244087	NANDINI KUMARI	2403117	nandinikumari8787@gmail.com	9241811160	
87	120001244088	NARAYAN KUILA	2403056	kuilanarayanjgm@gmail.com	8116408464	
88	120001244089	NAVEEN SHARMA	2403051	navsharma02092005@gmail.com	9835526269	

9.3 Feedback Analysis (10)

Details of the feedback collection process on TLP

Feedback for all courses is collected through an online process, ensuring a streamlined and efficient evaluation system. The identity of the students providing feedback remains confidential, maintaining the integrity and honesty of responses. The participation rate is approximately 85–90% of students actively taking part in the process.

At BCREC, faculty members are evaluated once every semester based on their teaching effectiveness, as assessed by students. This evaluation is conducted online and follows a direct collection method. It is organized at the departmental level and is designed to be fool proof. Each department appoints a faculty member as the coordinator, who oversees the entire process.

Detailed outline of the feedback collection process:

Communication: The department informs students about the feedback process through various channels, such as email, announcements on the learning management system, and physical notices in common areas.

Access to the Online Portal: Students are provided with login credentials or a unique identification code to access the online feedback portal. This ensures that only authorized individuals can submit feedback.

Feedback Form: The online portal hosts a comprehensive feedback form that covers various aspects of teaching and learning. The form may include sections related to course content, instructor effectiveness, teaching methods, assessment techniques, and overall satisfaction.

Submission Period: A specific time frame is allotted for students to submit their feedback. This period is typically aligned with the end of the semester or course duration to capture the students' experiences accurately.

Reminder Notifications: Regular reminders are sent to students during the feedback collection period to encourage maximum participation and ensure that all students have an opportunity to provide their feedback.

Anonymity and Confidentiality: The feedback process ensures the anonymity and confidentiality of students' responses. This encourages honest and unbiased feedback without fear of repercussions.

Submission Confirmation: After students submit their feedback, they receive a confirmation message to acknowledge their participation.

The faculty is evaluated based on eight well-structured primary questions that encompass all key aspects of effective teaching methodologies:

- The manner in which the faculty delivers lectures.
- The extent to which the faculty covers the course content.
- The style and clarity of lecture delivery.
- The faculty's responsiveness to student queries and feedback.
- The degree to which attending the class meets its intended purpose.
- The feedback provided by the faculty on students' performance.
- The presentation skills of the faculty during lectures.
- The effectiveness of the faculty in achieving the course objectives.

Feedback analysis process:

- Students' feedback for various courses is collected through online mode. A standard questionnaire is framed and circulated to the students for which they are asked to submit their responses online. This feedback is obtained during and at the end of every semester. The response for each question is on a scale of 1 to 4, with 4 being the highest and 1 being the lowest in scale.
- A list is prepared that includes the faculty members teaching each subject and the criteria to be assessed. A schedule is then created to ensure that all classes participate in the feedback process. On the assigned day, students go to designated computer labs, log in using their unique IDs and passwords, and complete a confidential online questionnaire. This standardized survey allows students to provide structured and objective feedback on each faculty member based on specific teaching parameters.
- Students are required to complete the following feedback at the end of each semester.

Table 9.3.1(a): Teaching-Learning Feedback Collection Process

Sl. No.	Feedback Component	Mode of Collection	Respondents	Frequency	Parameters Covered	Responsibility
1	Course-End Feedback	Structured feedback form	Students enrolled in respective courses	End of course delivery	Syllabus coverage, teaching approach, examples, communication, assessment clarity	Course Teacher / Department
2	Semester-End Feedback	Structured student feedback	Students of all semesters	End of semester	Academic experience, mentoring, pedagogy, communication skill development	Departmental Feedback Committee
3	Student Satisfaction Survey	Consolidated survey format	Students across batches	Periodic	Knowledge acquisition, real-life application, learning environment, faculty expertise	Department / IQAC-linked process
4	Mentor-Mentee Feedback	Interaction-based review	Mentees allotted to faculty mentors	Periodic	Academic support, counselling, project guidance, difficulty areas	Faculty Mentors
5	Departmental Review	Feedback analysis meeting	Faculty members and DAC members	After compilation	Weak indicators, corrective measures, action tracking	HoD / DAC

The feedback analysis process involves thorough examination and interpretation of the collected feedback to extract valuable insights.

Here is an overview of the analysis process:

Data Compilation: All the feedback responses are compiled and stored securely for analysis. The online portal may generate a consolidated report or export the data in a suitable format for analysis.

Data Cleaning: The collected data is reviewed to ensure its quality and reliability. Any incomplete or irrelevant responses are removed to ensure accurate analysis.

Categorization: The feedback responses are categorized based on various parameters such as course name, instructor name, teaching methods, course content, and overall satisfaction. This allows for a focused analysis of specific areas.

Quantitative and Qualitative Analysis: The feedback responses are analysed using both quantitative and qualitative methods. Quantitative analysis involves numerical data, such as ratings or Linear scale responses, which can be statistically analysed. Qualitative analysis involves extracting themes, patterns, and insights from open-ended responses and comments.

Identifying Strengths and Areas of Improvement: The analysis aims to identify the strengths of the teaching and learning process as well as areas that require improvement. It helps in identifying effective teaching methods, engaging course content, and areas where instructors can enhance their teaching practices.

Report Generation: The analysis findings are compiled into a comprehensive report that highlights key insights, trends, and recommendations. The report is shared with the relevant stakeholders, including instructors, department heads, and administrators.

Significance of Student Feedback:

- The institution is committed to creating an optimal learning environment that supports students in reaching their full potential. In this process, teachers act not only as educators but also as facilitators, observers, and evaluators. Their role involves guiding students holistically—academically, personally, and socially—while promoting positive attitudes and motivation toward learning.
- Effective teaching includes setting developmental goals, observing progress, offering guidance, and adapting support based on individual student needs. At the same time, students play a vital role in the continuous improvement of the educational process. Their feedback provides essential insights into how teaching and institutional services are perceived. This information helps the institution assess and enhance the quality of education and overall learning experience from the students' perspective—the primary stakeholders in the academic system.

Process for Obtaining Student Feedback:

- Student feedback is collected through a structured online system. At the end of selected study units, students receive an email with a link to a short feedback form, which they can complete anonymously. This feedback process takes place twice in an academic year—once at the end of the odd semester and once at the end of the even semester. Importantly, feedback is gathered only after students have completed assessments for each course or parameter, but before the semester results are officially released. This timing ensures that feedback reflects the full learning experience while maintaining the integrity and objectivity of the evaluation process.

Objective of Student Feedback on Study Units:

The main goals of collecting student feedback on study units are as follows:

- To give students a chance to share their opinions about the quality of their learning experiences, this is important for academic reviews and continuous improvement.
- To evaluate how well the teaching and course delivery meet students expectations and learning needs.
- To use the feedback to enhance the way the course is taught and, if needed, improve the content of the study unit for future students.

Anonymity of Student Feedback:

The student feedback process is designed to be completely confidential and anonymous. Specific measures are in place to protect student identity and ensure that feedback does not negatively impact any individual. Students are not asked to provide their names or any identifying information at any point while filling out the feedback form.

All responses are collected and analysed in groups, based on the entire class, making it impossible to trace feedback back to any one student. Faculty members receive only the summarized, aggregated results—after final grades for the study units have been submitted. This ensures that students' academic results cannot be influenced by the feedback they provide. Additionally, feedback is only collected for study units that have been attended by a significant number of students, which supports meaningful data analysis while maintaining anonymity.

Basis of Reward/Corrective Measures during the assessment period:

The department may implement rewards or corrective actions based on the results of feedback analysis. The specific actions taken depend on the nature of the feedback received.

Reward Measures: Instructors who consistently receive positive feedback—indicating effective teaching methods and high levels of student satisfaction—may be recognized or rewarded. Rewards could include certificates, awards, or public recognition through departmental newsletters or websites.

Corrective Measures: If the feedback highlights areas that need improvement, the department takes steps to address these issues. The basis for corrective actions includes:

Identified Areas for Improvement: Feedback is analysed to pinpoint specific aspects of teaching and learning that require development. These may involve course content, teaching strategies, assessment methods, communication skills, or other relevant factors.

Severity and Frequency of Issues: The department considers how often an issue is mentioned and how seriously it affects the student learning experience. Repeated or high-impact concerns are prioritized.

Comparative Analysis: Feedback data may be compared across different instructors or courses to identify patterns, trends, or deviations. This helps the department understand performance variations and focus on specific areas.

Stakeholder Input: The analysis is reviewed with key stakeholders, such as instructors, department heads, and administrators. Their insights help in deciding the most suitable corrective measures.

Best Practices and Research: The department may refer to best practices in teaching and learning or relevant research in the field of education to guide the corrective measures. This ensures that the measures implemented are evidence-based and aligned with the latest pedagogical approaches.

Number of Corrective Actions Taken:

Based on student feedback, the department has implemented several initiatives to enhance academic support and bridge the gap between academia and industry:

- Add-On certificate courses were introduced for students across all years to bridge the gap between academic learning and industry requirements. More such courses will be offered in the future.
- Technical Skill Development to students has been provided with spoken tutorials on Python 3.4.3 and QCad. Future offerings will include QGIS, LaTeX etc.
- Experts from the construction industry were consulted to align training with current needs.
- A variety of events such as seminars, workshops, alumni interactions, site visits, and interactive sessions to ensure the holistic development of the students.

- Students are encouraged to engage in collaborative projects, tech model development, and participate in hackathons and tech fests hosted by institutions and industries.
- The Departmental Academic Committee is actively identifying gaps between the curriculum and industry needs, with plans to formally communicate suggestions to the University

Based on the feedback received regarding the courses offered and the overall teaching-learning process, the following actions have been proposed:

- Teachers now clearly explain the goals and importance of each topic in every class. They regularly ask for student feedback to keep classes interesting and adjust the speed of teaching to help everyone understand better.
- Interactive teaching has been increased to make classroom sessions more engaging.
- Internal evaluation criteria have been reviewed to ensure fairness. Teachers now hold regular discussions about assessment results and provide additional support where needed.
- Peer learning, mentorship programs, one-on-one guidance, and remedial classes have been expanded to support students more effectively.
- Teaching now incorporates projectors, multimedia slides, and other ICT tools. More real-life examples, industry visits, expert lectures, and industry interactions are used to connect theory with practical applications.

These actions aim to bridge the gap between industry needs and academic courses, enhance research capabilities, provide hands-on experiences, and foster a culture of continuous learning and improvement.



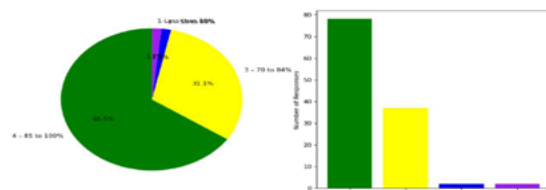
Semester End Survey
Academic Year: 2025-26
Department: CSE
Semester: THIRD

Total number of students participated in the survey: 119

Feedback on Academics

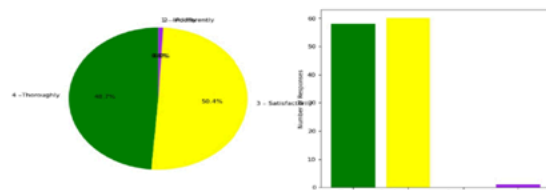
1. The overall syllabus coverage in the class is to an extent of

4 – 85 to 100%: [78] – (65.55%) 3 – 70 to 84%: [37] – (31.09%) 2 – 50 to 69%: [2] – (1.68%) 1 – Less than 50%: [2] – (1.68%)



2. Teachers are prepared for the classes

4 – Thoroughly: [58] – (48.74%) 3 – Satisfactorily: [60] – (50.42%) 2 – Poorly: [0] – (0.0%) 1 – Indifferently: [1] – (0.84%)



3. Communication of the teachers in the class and outside the class is

4 – Always effective: [76] – (63.33%) 3 – Sometimes effective: [37] – (30.83%) 2 – Just satisfactory: [7] – (5.83%) 1 – Not satisfactory: [0] – (0.0%)

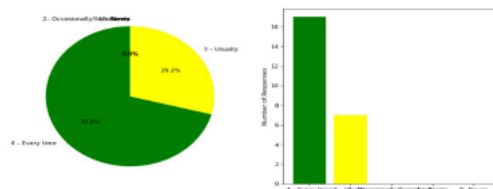
Fig: 9.3.1a: Sample of Semester End Feedback

Course End Survey
 Academic Year: 2025-26
 Department: CSE
 Faculty: RAJIB KUMAR MONDAL
 Course: PCC- CS502-Operating Systems-CSE

Total number of students participated in the survey: 24

1. Teachers inform you about the relevance of the course to your discipline/stream and corresponding course outcomes and program outcomes.

4 – Every time: [17] = (70.8333333333334%) 3 – Usually: [7] = (29.1666666666668%) 2 – Occasionally/Sometimes: [0] = (0.0%) 1 – Rarely: [0] = (0.0%) 0 – Never: [0] = (0.0%)



2. How much of the syllabus was covered in the class?

4 – 85 to 100%: [19] = (79.1666666666667%) 3 – 70 to 84%: [5] = (20.8333333333333%) 2 – 55 to 69%: [0] = (0.0%) 1 – 30 to 54%: [0] = (0.0%) 0 – Below 30%: [0] = (0.0%)

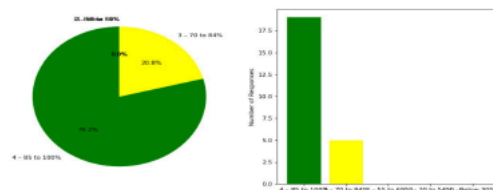


Fig: 9.3.1b: Sample of Course End Feedback

9.3.2 Feedback on Academic Facilities (10)

Institute Marks : 10.00

Feedback collection process on facilities

The college uses both formal and informal methods to gather feedback from students through different committees and student groups. The main goal is to ensure students have access to the best possible facilities.

A standard procedure for feedback on facilities is taken up in the department as per the following steps:

- Students are asked to share their opinions about various facilities such as classrooms, infrastructure, library, labs, hostels, sports areas, and internet access.
- The collected feedback is carefully reviewed to identify any issues or areas that need improvement.
- After discussing the feedback results with the management, necessary improvements are made. This ensures that changes are based on real student experiences and evidence, following a scientific and systematic approach.

Questionnaire

- How do you rate the Laboratory facilities at the institution?
- How do you rate the Library Facilities provided by the institution?
- How do you rate the Sports facilities provided by the Institution?
- Are you satisfied with the Hostel Facility provided by the institution?
- How do you rate the water facilities provided by the Institution?
- Are you satisfied with the Cleanliness and Hygiene facilities in the college campus?
- Are you satisfied with the Canteen Facility provided by the institution?
- How do you rate the internet facilities at the institution?

Rating of Scale

The questions were assessed on a scale of 1-4 (Excellent [4] and Poor [1]).

Analysis of feedback on academic facilities

Most students expressed high satisfaction with key facilities such as classrooms, labs, library, water supply, internet access, cleanliness, and sports amenities. They especially appreciated the sports infrastructure and general hygiene on campus.

However, based on a systematic review of the feedback, some areas for improvement were identified:

- Some students reported a need for regular evaluation and improvement in hostel facilities to meet basic living standards and comfort.
- A number of students felt that the canteen food quality and variety could be better. Improving this facility supports student well-being and nutrition —key factors for academic performance.
- Feedback showed concerns about internet speed and connectivity.
- While students liked the sports facilities, many suggested the need for more variety and updated equipment to promote physical health and extracurricular engagement.
- Although overall cleanliness was rated well, students recommended further improvements, highlighting its importance in maintaining a healthy and productive learning environment.

Corrective actions taken

Some of the corrective actions initiated are:

- Students were assured that their feedback on hostel, canteen, internet, and cleanliness issues will be reported to the appropriate authorities, including the Dean of Student Affairs. These concerns will be reviewed and resolved through structured platforms like the Hostel Council.
- Up gradation of Hostel, Canteen and Food facilities are suggested and the same is forwarded to the central authorities.
- The Wi-Fi routers are checked and necessary repair work is done to ensure uninterrupted internet facility.
- The Wi-Fi password is displayed at appropriate places in the campus.

Table 9.3.2(a): Facility Feedback Collection Process

Sl. No.	Facility Component	Mode of Feedback	Respondents	Review Level	Nature of Action
1	Laboratory Facilities	Semester-end feedback / SSS	Students using departmental laboratories	Department	Equipment procurement, scheduling, access improvement
2	Library Access	Facility feedback	Students across semesters	Department / Library	Extended hours, digital resources
3	Classroom Infrastructure	Facility feedback	Students across batches	Department / Institute	Seating, ventilation, AV improvement
4	Internet Connectivity	Facility feedback and complaints	Students, especially hostel users	Institute IT Cell	Routers, bandwidth, IT Helpdesk
5	Hostel Amenities	Facility feedback	Hostel residents	Institute authority	Hygiene, water purifiers, maintenance
6	Cleanliness and Hygiene	Feedback comments and ratings	Students	Institute / Housekeeping	Audits, waste bins, staff allocation
7	Canteen Services	Facility feedback	Students	Institute / Vendor	Menu revision, hygiene inspection
8	Digital Learning Support	Academic-facility feedback	Students and faculty	Department / Institute	LMS, e-content, online resources

Table 9.3.2(b): Facility Feedback Analysis and Action Mapping

Facility Parameter	Student Feedback Trend	Weakness Identified	Corrective Action Taken	Status
Laboratories	Moderate to positive	Limited equipment and access slots	Equipment procurement and extended lab sessions	Implemented
Project Laboratories	Positive demand for practical work	Need for project-based access	Xilinx Lab and Advanced Prototyping Lab opened	Implemented
Library	Positive but with access concerns	Need for longer hours and e-resources	Extended hours and digital resources	Implemented
Classrooms	Satisfactory	Seating, ventilation, AV support required	Classroom infrastructure upgraded	Implemented / Ongoing
Internet	Low satisfaction	Poor connectivity, especially in hostels	Routers, bandwidth increase, access points	Implemented / Ongoing
IT Complaints	Repeated technical issues	Lack of quick complaint handling	IT Helpdesk introduced	Implemented
Hostel Amenities	Mixed response	Hygiene and basic amenities concerns	Maintenance, purifiers, sanitation cycles	Ongoing
Cleanliness	Dissatisfaction in common areas	Need for periodic monitoring	Weekly audits and housekeeping support	Implemented / Ongoing
Canteen	Food quality concerns	Hygiene and menu issues	Vendor review and menu revision	Implemented
Digital Learning	Need for better access to learning materials	Limited online academic support	LMS and e-content recommended	Planned / Ongoing



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 AFFILIATED TO MAKAUT | APPROVED BY AICTE | *NBA ACCREDITED | NAAC ACCREDITED
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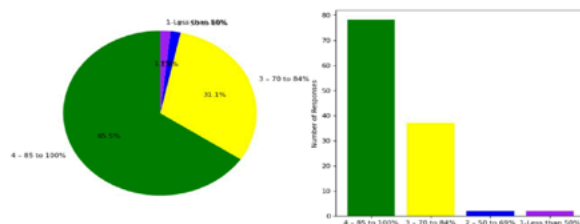
Semester End Survey
 Academic Year: 2025-26
 Department: CSE
 Semester: THIRD

Total number of students participated in the survey: 119

Feedback on Academics

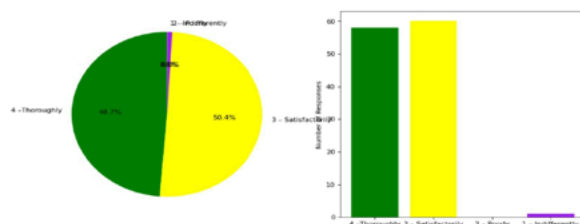
1. The overall syllabus coverage in the class is to an extent of

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2. Teachers are prepared for the classes

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3. Communication of the teachers in the class and outside the class is

4 – Always effective: [76] = (63.33%) 3 – Sometimes effective: [37] = (30.83%) 2 – Just satisfactorily: [7] = (5.83%) 1 – Not satisfactory: [0] = (0.0%)

Fig. 9.3.2 (a) : Sample Feedback Analysis

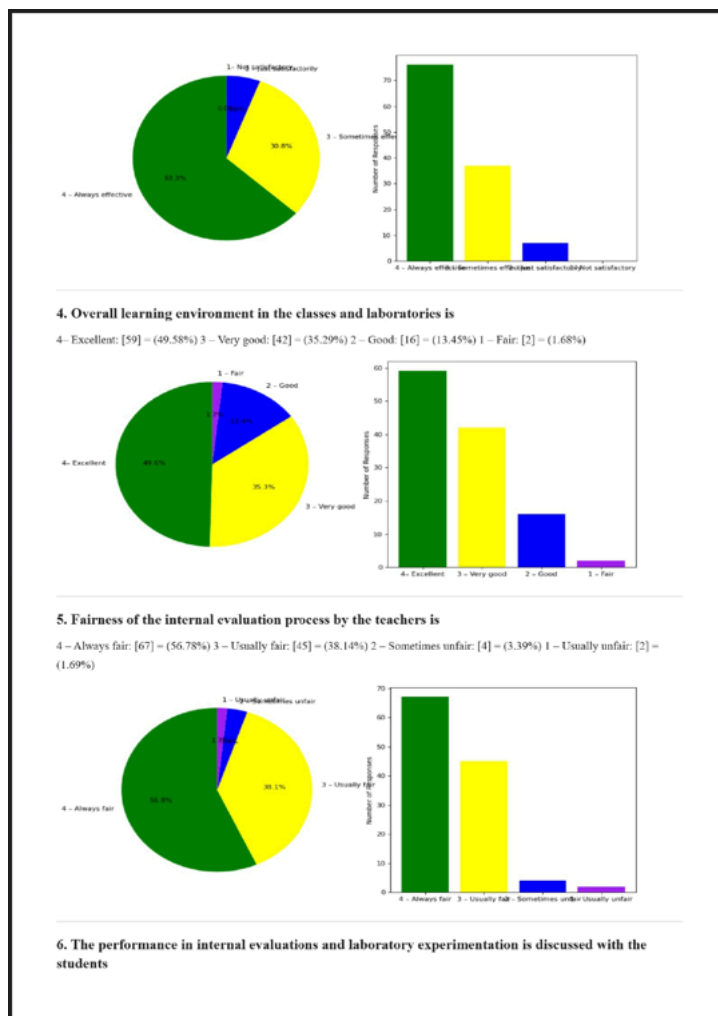
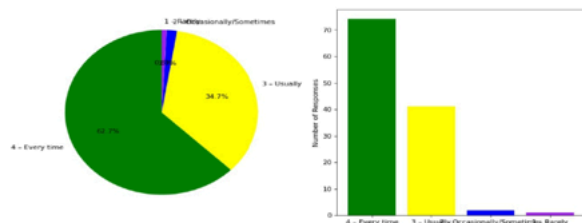


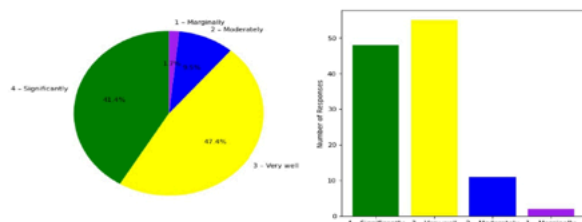
Fig. 9.3.2 (b) : Sample Feedback Analysis

4 – Every time: [74] = (62.71%) 3 – Usually: [41] = (34.75%) 2 – Occasionally/Sometimes: [2] = (1.69%) 1 – Rarely: [1] = (0.85%)



7. The teaching and mentoring process in the department supports the development of your cognitive, social, and emotional growth

4 – Significantly: [48] = (41.38%) 3 – Very well: [55] = (47.41%) 2 – Moderately: [11] = (9.48%) 1 – Marginally: [2] = (1.72%)



8. Teachers inform students about expected competencies, course outcomes , programme outcomes and overall system of outcome based education(OBE)

4 – Every time: [70] = (58.82%) 3 – Usually: [42] = (35.29%) 2 – Occasionally/Sometimes: [6] = (5.04%) 1 – Rarely: [1] = (0.84%)

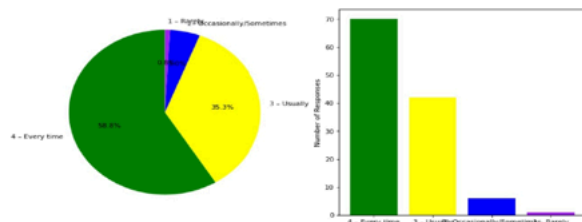
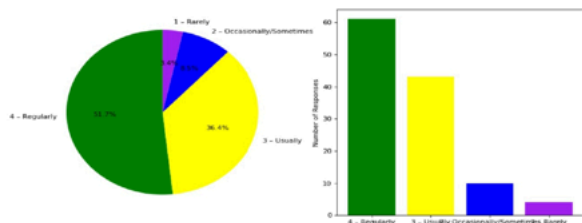


Fig. 9.3.2 (c) : Sample Feedback Analysis

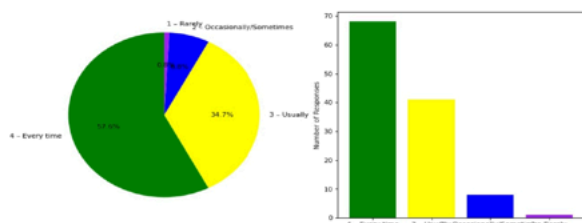
9. Your mentor interacts with you to encourage on your strengths and counsel you to overcome your weakness by identifying them

4 – Regularly: [61] = (51.69%) 3 – Usually: [43] = (36.44%) 2 – Occasionally/Sometimes: [10] = (8.47%) 1 – Rarely: [4] = (3.39%)



10. The teachers illustrate the concepts through examples and applications and use student centric methods, such as experiential learning, participative learning and problem solving methodologies for enhancing learning experiences

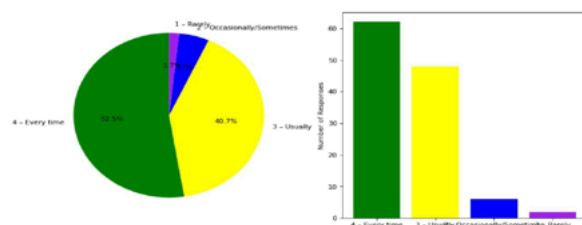
4 – Every time: [68] = (57.63%) 3 – Usually: [41] = (34.75%) 2 – Occasionally/Sometimes: [8] = (6.78%) 1 – Rarely: [1] = (0.85%)



11. The institute takes active interest in promoting internship, field visit, organizes workshop/seminar/extracurricular/co-curricular activities and helps to inculcate soft skills, life skills and employability skills for the holistic development of the students

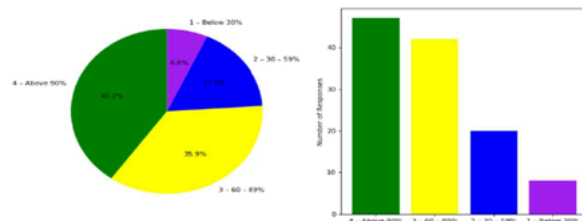
4 – Every time: [62] = (52.54%) 3 – Usually: [48] = (40.68%) 2 – Occasionally/Sometimes: [6] = (5.08%) 1 – Rarely: [2] = (1.69%)

Fig. 9.3.2 (d) : Sample Feedback Analysis



12. Percentage of teachers using ICT tools such as LCD projector, Multimedia, etc. while teaching

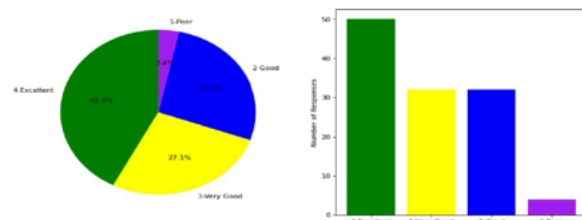
4 - Above 90%: [47] = (40.17%) 3 - 60 - 89%: [42] = (35.9%) 2 - 30 - 59%: [20] = (17.09%) 1 - Below 30%: [8] = (6.84%)



Feedback on Facilities

13. Class room facility

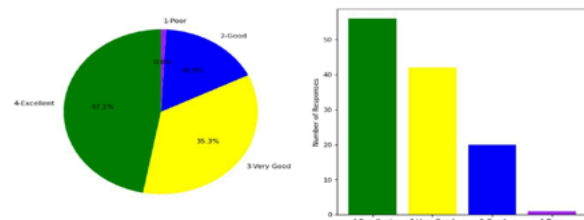
4-Excellent: [50] = (42.37%) 3-Very Good: [32] = (27.12%) 2-Good: [32] = (27.12%) 1-Poor: [4] = (3.39%)



14. Laboratory facility

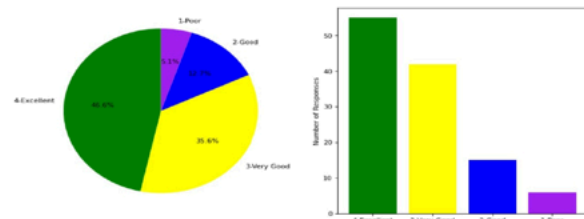
4-Excellent: [56] = (47.06%) 3-Very Good: [42] = (35.29%) 2-Good: [20] = (16.81%) 1-Poor: [1] = (0.84%)

Fig. 9.3.2 (e) : Sample Feedback Analysis



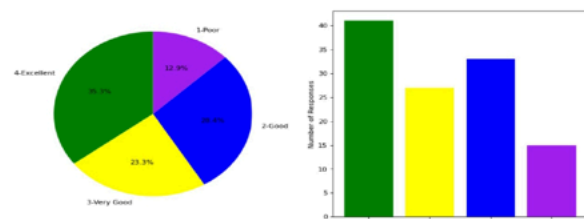
15. Library facility

4-Excellent: [55] = (46.61%) 3-Very Good: [42] = (35.59%) 2-Good: [15] = (12.71%) 1-Poor: [6] = (5.08%)



16. Hostel facility

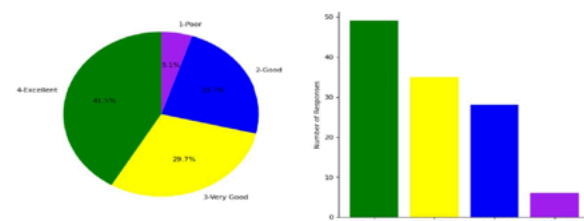
4-Excellent: [41] = (35.34%) 3-Very Good: [27] = (23.28%) 2-Good: [33] = (28.45%) 1-Poor: [15] = (12.93%)



17. Sports facility

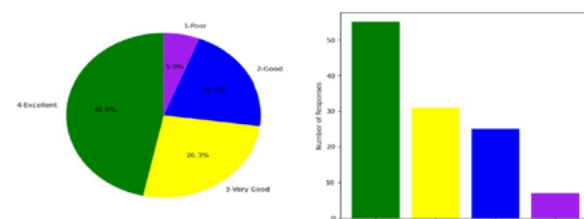
4-Excellent: [49] = (41.53%) 3-Very Good: [35] = (29.66%) 2-Good: [28] = (23.73%) 1-Poor: [6] = (5.08%)

Fig. 9.3.2 (f) : Sample Feedback Analysis



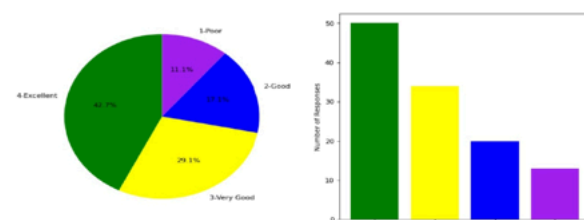
18. Water facility

4-Excellent: [55] = (46.61%) 3-Very Good: [31] = (26.27%) 2-Good: [25] = (21.19%) 1-Poor: [7] = (5.93%)



19. Cleanliness and Hygiene

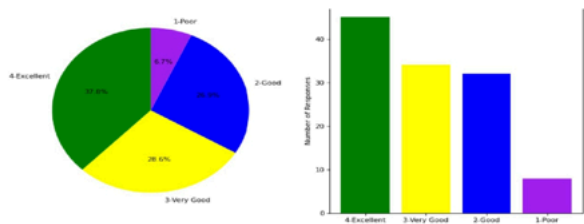
4-Excellent: [50] = (42.74%) 3-Very Good: [34] = (29.06%) 2-Good: [20] = (17.09%) 1-Poor: [13] = (11.11%)



20. Canteen facility

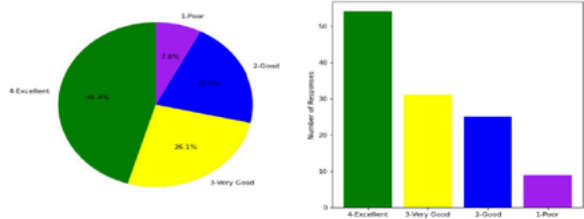
4-Excellent: [45] = (37.82%) 3-Very Good: [34] = (28.57%) 2-Good: [32] = (26.89%) 1-Poor: [8] = (6.72%)

Fig. 9.3.2 (g) : Sample Feedback Analysis



21. Internet facility

4-Excellent: [54] = (45.38%) 3-Very Good: [31] = (26.05%) 2-Good: [25] = (21.01%) 1-Poor: [9] = (7.56%)



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Fig. 9.3.2 (h) : Sample Feedback Analysis

Training and placement Support:

The Institute has established a Training and Placement cell headed by the Training and Placement Officer (TPO). The activities of the cell are to:

- Provide guidance to the students to enhance their employability potential.
- Prepare a comprehensive and potential list of industries for internships and job opportunities.
- Strengthen Industry-Institute Interaction to create job opportunities for students.
- Organize on-campus recruitment programs in which employers present their organizations to our students, as well as interview them for placement.
- Prepare a comprehensive and potential list of industries for internships and job opportunities.
- Visit industries frequently to explore possibilities of student recruitment through campus drives.
- Prepare lists along with biodata of eligible students for various placement drives.
- Conduct programs for students in areas like personality development, communication skills, and behaviour.
- Help students to get vocational training/internship opportunities in industries during the semester break.

Calendar of scheduled training:

A tentative training calendar is prepared at the start of the semester and made available to the students. Accordingly, career guidance training for placement, as well as competitive exams, is organized. Samples of such kind of calendar, along with the notice endorsed by the principal and T&P in-charge, are given below.

Dr. B. C. Roy Engineering College Durgapur
Training & Placement Cell (Campus)

NOTICE

Name of the programme: *Career Readiness Boot Camp: A Course for Placement Preparation and Competitive Examination*

Schedule Time slot: As per the College routine Test Based Training (TBT) class for sixth semester students [2025 passing out batch]

All B.Tech, 3rd year, MCA students are informed that the College Placement Cell and Technical Training Cell jointly conduct a course, "***Career Readiness Boot Camp: a Course for Placement Preparation and Competitive Examination***", for the pre-final year students of the college. The course is primarily aimed at students who will be participating in the placement drive and will commence from January 8, 2024, onwards. The major objective of the course is to enhance technical skills and Industry-required knowledge.

This course includes Instructor-based training (computer fundamentals, programming, and domain subjects), programming practices, a domain assessment test, and assessments on every module. The student's performance report and analysis of company readiness will be done based on the cumulative assessment score.

It is mandatory for all the students to attend this course to enrich them and help them prepare for the upcoming placement drive, different competitive exams and build a strong foundation for their future careers.

Tentative Training Plan in brief: CSE / IT / CSD / AIML / ECE / EE / ME / CE / MCA [If any scheduled Domain Classes can't be conducted due to any major College Event / Holiday, it will be rescheduled]

- Week 1 [08.01.2024 – 11.01.2024] :** Introductory session
- Week 2 [15.01.2024] :** Aptitude Test + Technical for all branches for 60 question, 90 minutes (through college server)
- Week 3 [22.01.2024 – 25.01.2024] :** Aptitude Test + Technical for all branches for 60 question, 90 minutes (through college server)
- Week 4 [29.01.2024 – 02.02.2024] :** Aptitude Test + Technical for all branches for 60 question, 90 minutes (through college server)
- Week 5 [05.02.2024 – 10.02.2024] :** Aptitude Test + Technical for all branches for 60 question, 90 minutes (through college server)
- Week 6 [04.03.2024 – 07.03.2024] : Training on Computer Fundamentals and Programming**
- Week 7 [11.03.2024 – 15.03.2024] :** Programming practice, coding, and debugging Assessment test on Computer Fundamentals and Programming
- Week 8 [18.03.2024 – 22.03.2024] :** Aptitude Test + Technical for all branches for 60 question,
- Week 9 [27.03.2024 – 28.03.2024] :** Aptitude Test + Technical for all branches for 60 question, 90 minutes (through college server)

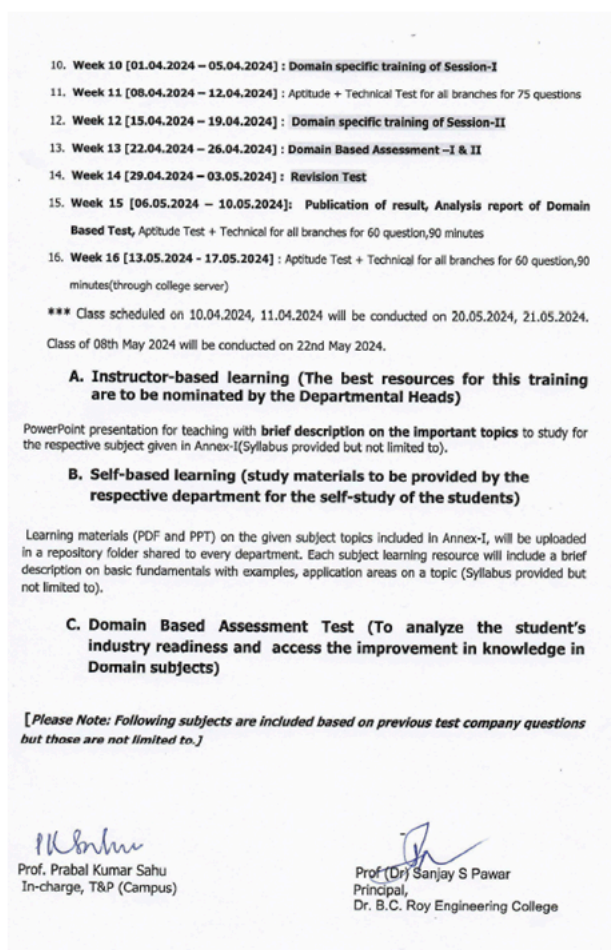


Fig 9.4a: Sample calendar of scheduled training.

Career guidance, including counseling for higher studies:

Effective career guidance is provided for career planning, job searching, and higher studies through the departmental staff.

- The database of jobs available with TPO helps students search for job opportunities, which increases their job potential.
- Soft skills training programs are arranged to impart professional skills.
- Guidance and software tools are provided to prepare resumes and practice interview skills by conducting interviews in a virtual and simulated environment.
- The institute library is equipped with state-of-the-art resources on career opportunities, post-graduate programs, and information on potential employers.
- Alumni are invited to participate in seminars on career guidance and to have close interaction with the students.
- Students are encouraged to appear for GATE and other competitive examinations by offering in-house special guidance.

T&P Committees:

To manage and conduct the various placement drives (on and off campus) properly, an in-house Training and Placement (T&P) unit is formed under the chairmanship of an experienced faculty member.

The structure of the committee is as follows:

1. Core committee (T&P [Campus]) members:

- Chairman/In-charge 1
- Members (5 Nos.)

2. T&P Work Execution Committee:

- 13 members from different departments.

The Placement & Training Cell Facilities:

- The Placement and Training Cell is functioning under the leadership of a Placement Officer and Departmental Coordinators.
- Well-Equipped Placement Cell.
- Fully air-conditioned two Hi-Tech Halls to conduct Training and Pre-Placement Meeting /Briefings.
- Well-furnished /Air-conditioned Hi-Tech Auditorium and Seminar Halls.
- Facilities to conduct Interviews /GDs/Online tests.

Objectives of career guidance:

In today's ever-changing dynamism, Career Guidance for students is the most vital aspect of college education, so that the students can serve the needs of the ever-changing and dynamic market. To choose the right career path based on the interest of the students, BCREC offers education beyond the curriculum and provides career guidance to the students in the following aspects.

- Exploring various career options
- Developing self-confidence and self-reliance
- Creating interest in higher studies
- Promoting entrepreneurship
- Promoting a culture among students for lifelong learning
- Helping students to learn beyond the curriculum

In today's competitive markets, the right path of career choice matching with the potential and the interest is not an easy task for students. To keep the students career-focused and make them aware of the industry and social needs, career guidance through different training processes beyond the curriculum is most essential. The need of the hour is also to induce a habit among the students for lifelong learning to progress in their careers. The challenge is changing the mindset of students to become skilled at how to learn new things and adapt themselves with the latest knowledge and techniques. Career growth culture among students has to be developed and will be of particular importance for ensuring their employability and facilitating their transition from college-level education and internship to face the challenges of the future. Finding the correct resource person for effective guidance (external or in-house), having competencies, becomes more and more important in designing and implementing this practice.

These goals are achieved through the following activities of the Training and Placement Department, as well as the individual departments of specialization in the Institute:

1. Students are trained on Communication & Presentation Skills (using language lab) imparted by the faculty members of the English Department - will have a great advantage in the job market and more choice in the profession.
2. Specific training on technical skills like Aptitude test, Programming skills, etc. is provided to the students by hiring Professional Agency, Co-cubes, Bangalore - The students' aptitudes and abilities measured by verbal and numeric reasoning tests can easily be related to real world tasks and jobs, as many jobs require some degree of skill with words and numbers.
3. Soft Skills Training Program (through institutional membership of British Council) which fall into four categories – (i) Problem Solving Skills, (ii) Communication Skills, (iii) Personal Qualities and Work Ethics, (iv) Interpersonal and Teamwork Skills
4. At the individual department level, Career Guidance is provided to the students to help them explore various career options.
5. Mock Tests, Mock Interviews, and Personality Development training programs by the Campus T&P team members are held on a continuous basis to achieve a higher rate of placement.
6. To create awareness about the opportunities/challenges in various engineering/application/management sectors, resource persons from industries are invited to deliver technical talks and to impart knowledge on the current trends and latest technologies. This helps students to provide industry insights, making the success rate higher.
7. To make students more enthusiastic and boost their self-confidence, alumni are also invited to address them and guide them through the career options.
8. Guidance on competitive examinations, e.g., GATE and different public service commission examinations, is also given at the department level.
9. Students are encouraged to participate in technical contests, carry out project work, undergo internships, and also organize various technical fests and social activities to enhance their knowledge through experience.
10. Seminars/Workshops are organized by individual departments/students' chapters in collaboration with renowned industries, highlighting the importance of education in the industry are conducted.

Constraints faced during students' career guidance:

There is a serious lack of awareness amongst students, their parents, and even teachers, which creates difficulty while giving career guidance. There is a serious mismatch between skill-building and available jobs. Awareness of career counseling is really low among the students, which leads to hesitation among the students to seek career counseling in the first place.

Evidence of Success

- The career guidance training has augmented the awareness among the students about the importance of effective communication and has helped them to understand the need for the development of other skills other than the technical knowledge they acquire through their regular classes/ labs and continuous assessments.
- The performance of the practice is reflected in the campus placement of the students. The total placement scenario has been changed and the placement percentage has taken an upward trend year-by-year. Moreover, students started understanding that they are to be industry-ready as per the market need and it will create their demand. In the process, a larger section of the students get inclined to jobs of different flavour other than the jobs related to their specific technical skill sets.
- To add to this, career guidance is helping the students to understand their inclination towards higher studies and they appear for GATE, CAT, GRE, etc., examinations. Although the success rate is not commendable, however, this kind of preparation makes the students ready for facing tough technical interviews, as well their confidence increases many-fold on attempting public service examinations. This is evident from the fact that several students are qualifying for the public service commission examinations just after passing out.
- Although there are various problems, the institute has been able to implement the practice effectively through decentralizing the training. The training programs which are organized for pre-placement/ internship/ placement/counseling and support for higher study and other competitive exams through direct interaction with industry/industry professionals are listed below.

Table No. 9.4.1a: List of industry interactions exclusively for career counseling, guidance and support for higher study, etc.

Date	Industry/Organization	Event Details
21-02-2025	Made Easy	Career Counselling Session in Association with Made Easy
22-03-2024	IIT Guwahati	GATE Preparation and Prospects in Higher Education, Research, and Employment.
19-03-2024	Infosys	Artificial Intelligence and students: a path forward.
14-03-2024	Tata Power	Renewal Energy Overview & Trends in India.
14-03-2024	Made Easy	Career opportunities in PSUs/Civil Services/GATE/IES/IRS
12-03-2024	Tata Power Company India Ltd.	Energy Storage Solutions- Need of the hour.
08-03-2024	Tata Power	Prefabricated, 3D Precast and 3D Printed Buildings as a Product (BAAP)
10-01-2024	Tata Power Skill Development Institute	Career Guidance Hands-on Workshop: One-day Training Program on familiarization with Power System and Solar PV

15-05-2023	Edwise	In association with – Edwise, the following institute's representatives visited - 1. Manchester Metropolitan University 2. University of Greenwich 3. University of Southampton 4. The University of Arizona 5. Western Sydney University 6. Engineering Institute of Technology - EIT 7. Southern Cross University {Nehmiah} 8. Southern Institute of Technology (SIT) 9. Nanyang Institute of Management 10. Dundalk Institute of Technology {DKIT} 11. Lancaster University Leipzig ,
26-04-2023	MSME Govt of India	Entrepreneurship Awareness Program on Intellectual Property Rights and celebration of World IPR Day.
12-04-2023	Mphasis	Career Guidance and Industry Connect Session with Mphasis – Joshua David from India Campus Lead of Mphasis
05-04-2023	Celebal Technology	Mr. SharthakAacharjee&Mr.AnanyaChatterjee ,fromCelebal Technologies Pvt Ltd for Career Awareness Session - Future forward technologies.
04-04-2023	Hexaware Technologies Limited	Campus to Corporate & Preparation for Interview by Mr. Sougata Sen (General Manager - Recruitment/ Head Campus Recruitment).
31-03-2023	Quest Global	Interview: The easiest nut to crack – Mr. Rahul Dixit, HRD Quest Global
20-01-2023	CTS	Congizant Engagement Session
18-01-2023	Edwise	Interactive Seminar to explore academic opportunities overseas
01-12-2022	TCS	TCS Engagement Session
04-08-2022	Indian Navy	Opportunities for Engineering and Management Graduates in the Indian Navy
17-05-2022	Columbia University, New York (Alumni Connect)	One Day Live Virtual Seminar on 3D printing in the construction Industry
01-10-2021	IIT Madras (Alumni Connect)	One-Day Webinar on Graduate Aptitude Test and Prospect of Higher Study in Civil Engineering

Table No. 9.4.1b: A sample list of industry interactions exclusively for the Internship/Industrial Training Academic year 2023-2024, 2024-2025 and 2025-2026.

Industry/Organization	Internship Details	Date (from)	Date (to)	Duration
CAY (2025-26)				
WBPDC	Vocational Training	25-06-2025	26-07-2025	4 weeks
Chittaranjan Locomotive Works–CL	Locomotive work	07-07-2025	02-08-2025	4 weeks
Eastern Coalfields Ltd. - ECL	Vocational Training	01-07-2025	31-07-2025	1 month
DVC Maithon	Vocational training in DVC	11-07-2025	04-08-2025	21 days
PWD Asansol	Vocational Training	23-06-2025	22-07-2025	1 month
Tata Power TPSD	Vocational Training	07-07-2025	24-07-2025	15 days
CTTC Bhubaneswar	Artificial intelligence and machine learning	01-07-2025	31-07-2025	1 month
NSPCL	Vocational Training	01-07-2025	31-07-2025	1 month
BSNL Burdwan	Vocational Training	23-06-2025	19-07-2025	4 weeks
Matix Fertilisers, Panagarh	CORPORATE SOCIAL RESPONSIBILITY IN MATIX FERTILIZERS AND CHEMICALS LTD	01-07-2025	19-07-2025	3 weeks
DVC DSTPS Andal	AI Powered system for real time emission monitoring and predictive analysis	25-07-2025	08-08-2025	15 days
CDAC AICTE Idea Lab	Design and Fabrication of a Wind Turbine Model using CATIA V5 and 3D Printing	03-07-2025	02-08-2025	1 month
Jadavpur University	Internships	07-07-2025	16-08-2025	1 month
Duttcon	Condition monitoring of a structure through NDT Technique	23-06-2025	23-07-2025	1 month

CMERI	Object Detection using a Depth Camera and Radar	27-06-2024	23-07-2025	
Celebal Technologies	Data Science	27-06-2024	23-07-2025	2 Months
Asarfi Hospital, Dhanbad	A Study on Patient Experience and Service Quality at Asarfi Hospital, Dhanbad	08-07-2025	02-09-2025	8 weeks 1 day
ASP	Inventory management of ALLOY STEELS PLANT, SAIL	01-07-2025	26-08-2025	8 weeks 1 day
Beiersdorf, Kolkata	One Pack Every Shop: LNP 10s Distribution Deep Dive – Kolkata Market	07-07-2025	30-08-2025	7 weeks 6 days
Birla Corp	Perception of dealers and retailers regarding MP Birla Cement in Durgapur region	30-06-2025	25-08-2025	8 weeks 1 day
Fort Gloster, Howrah	Strategic Onboarding: A Study on Enhancing Employee Engagement and Retention	01-07-2025	26-08-2025	8 weeks 1 day
Graphite India	Training & Development Graphite India Limited	15-07-2025	30-08-2025	6 weeks 5 days
Himadri Chemicals, Kolkata	The Future of Battery Car Localization in India: Raw Material Demand and Himadri Chemicals Ltd.'s Strategic Positioning	01-07-2025	26-08-2025	8 weeks 1 day
Matix, Panagarh	CORPORATE SOCIAL RESPONSIBILITY IN MATIX FERTILIZERS AND CHEMICALS LTD	01-07-2025	26-08-2025	8 weeks 1 day
Nippon Mutual Funds	Penetrations of mutual fund in India- opportunity and challenges	01-07-2025	26-08-2025	8 weeks 1 day
Pantaloons	Impact on Visual Merchandising on purchase decisions in the womens ethnic section at Pantaloons, Durgapur, Junction Mall	30-06-2025	10-08-2025	6 weeks 0 days
Peerless Securities	INVESTORS PERCEPTION AND BEHAVIOUR TOWARDS STOCK MARKET ON PEERLESS SECURITIES LIMITED, DURGAPUR	30-06-2025	25-08-2025	8 weeks 1 day
Rhythm Heart Institute, Baroda	A STUDY ON HUMAN RESOURCE POLICIES, GRIEVANCE HANDLING, AND EMPLOYEE WELFARE AT RHYTHM HEART INSTITUTE	08-07-2025	02-09-2025	8 weeks 1 day
Sun Bangla, Kolkata	Internships	01-07-2025	26-08-2025	8 weeks 1 day
TATA Consumer Products, Durgapur	An investigation of products space dynamics for the brand Chings Secret Brand In Durgapur	01-07-2025	26-08-2025	8 weeks 1 day
TM Hospital	A study on the Employee On-boarding at Mission Hospital, Durgapur	15-07-2025	01-09-2025	7 weeks 0 days
WBSEDCL, Kolkata	EMPLOYEE SERVICE REGULATIONS OF WBSEDCL	07-07-2025	01-09-2025	8 weeks 1 day

Xperteez, Kolkata	Enhancing Candidate Sourcing Strategies for Non-Tech Roles" Broad Area: HR Sourcing and Recruitment	01-07-2025	30-08-2025	8 weeks 5 days
CAYm1 (2024-25)				
Eastern Coalfields Limited - ECL	INDUSTRIAL TRAINING	01-07-2024	31-07-2024	One Month
Webel, COE - Gov. of West Bengal	Internships	01-07-2024	31-07-2024	3 Weeks to 4 Weeks
Bihar Rajya Pul Nirman Nigam Ltd	CONSTRUCTION OF DOUBLE-DECKER FLYOVER	03-07-2024	02-08-2024	Four Weeks
DVC Maithon	Internships	06-07-2024	27-07-2024	21 Days
Damodar Valley Corp. (DVC) DSTPS, Andal, WB	Power plant structures and operations	01-07-2024	15-07-2024	Two Weeks
Celebal Technology	Virtual Internship(CSI / COE)	01-07-2024	31-07-2024	3 Weeks to 4 Weeks
Damodar Valley Corporation (DVC) Maithon, Dhanbad	Working of Dam Structure	01-07-2024	31-08-2024	Four Weeks
Duttcon Consultant & Engineers Private Limited.	Non-destructive testing (NDT)	08-07-2024	07-08-2024	Four Weeks
	Condition Monitoring of a Structure through NDT	08-07-2024	07-08-2024	Four Weeks
	Structural Audit Through Non-Destructive Testing Report On Command Hospital at Alipore	08-07-2024	07-08-2024	Four Weeks
	Stability Test Of Bharat Mata School at Ishagarh Madhya Pradesh	08-07-2024	07-08-2024	Four Weeks
	NDT TEST OF CONCRETE AND STEEL STRUCTURE, AND RETROFITTING.	08-07-2024	06-08-2024	Four Weeks
Eastern Coalfields Limited, Kajora Area	Construct Contract Process and Reverse Osmosis Water Purification Systems	01-07-2024	31-08-2024	Four Weeks
Indian Oil Corporation Limited	Operation and Management of Crude Oil Refinery	01-07-2024	31-07-2024	Four Weeks
CTTC Bhubaneswar	Internships	01-07-2024	31-07-2024	Four Weeks
National Highways Authority of India (NHAI)	Six Laning of National Corridor NH-19 from Panagarh to Patsit from km. 521.120 to km. 588.870 (total design strength 67.750 km) in the State of West Bengal [under Bharat mata Pariyojana to be executed on BOT (Toll) basis.	01-07-2024	31-07-2024	Four Weeks
Public Welfare Department Construction, Sub-Division (PWD-ASANSOL)	Building and Road Construction	05-07-2024	05-08-2024	Four Weeks
SAIL, Bokaro Steel Plant , Jharkhand	TRAINING IN DEPARTMENT OF CIVIL SAIL/BSL	08-07-2024	03-08-2024	Four Weeks
CAYm2 (2023-24)				
CELEBAL TECHNOLOGY	Internships	09-06-2023	08-08-2023	Two Months
Bankura Irrigation Division, Kenduadihi, Bankura	R.T.K Survey, Preparation of Scheme and Tender Procedure	22-06-2023	13-07-2023	Four Weeks
DVC DSTPS, Andal	INDUSTRIAL TRAINING	05-07-2023 24-07-2023	22-07-2023 08-08-2023	15 Days

3s groomers	INDUSTRIAL TRAINING	22-06-2023	13-07-2023	30 Days
Anovatech Institution of Crystalline Technology Pvt Ltd	INDUSTRIAL TRAINING	22-06-2023	13-07-2023	30 Days
Ardent Computech Pvt Ltd	Internships	22-06-2023	13-07-2023	20-60 Days
BIRLA CORPORATION LIMITED	INDUSTRIAL TRAINING	22-06-2023	13-07-2023	15 Days
BHARAT COKING COAL LIMITED	INDUSTRIAL TRAINING	22-06-2023	13-07-2023	15 Days
CCL , Darbhanga House Ranchi	Internships	09-06-2023	08-08-2023	60 Days
CSIR-Central Mechanical Engineering Research Institute	Internships	09-06-2023	08-08-2023	30 Days
DURGAPUR STEEL PLANT	INDUSTRIAL TRAINING	09-06-2023	08-08-2023	15-30 Days
National Institute of Technology, Durgapur	Internships	05-07-2023	22-07-2023	30 Days
Eduskillera	INDUSTRIAL TRAINING	24-07-2023	08-08-2023	28 Days
Tata Motors	INDUSTRIAL TRAINING	05-07-2023	22-07-2023	30 Days
PW Skills	Internships	09-06-2023	08-08-2023	35 Days
Oasis Infobyte	Internships	05-07-2023	22-07-2023	30 Days
Duttcon Consultant & Engineers Private Limited	Condition Monitoring of A Structure Through NDT Technique.	20-06-2023	19-07-2023	Four Weeks
DVC Bokar Jharkhand	Sewage treatment plant and thermal power plant	30-06-2023	20-07-2023	Four Weeks
M/S AMARNATH AGARWALLA HarindangaBazar ,Pakur	INDUSTRIAL TRAINING	03-07-2023	02-08-2023	Four Weeks
National Highway Authority of India (NHAI),PANAGARH	Six laning of Panagarh to Palsit section of NH-19 from km 521.120 to km 588.80 in the State of West Bengal under BharatmalaPariyojana on BOT Mode	01-07-2023	31-07-2023	Four Weeks
Northern Coalfield Limited, Singrauli M.P	Surveying using Modern instruments	26-06-2023	25-07-2023	Four Weeks
PWD Asansol Division	Construction of National Highway and production of bitumen	25-06-2023	24-07-2023	Four Weeks
PWD Roads Directorate National Highway Birbhum Division	Construction of National Highway and production of bitumen	25-06-2023	24-07-2023	Four Weeks
Rani Construction	Highway constructions	20-06-2023	21-07-2023	Two Weeks
RN INFRA PROJECTS, Ambhuja, City Centre, Durgapur	Road construction and tests related to construction of highway	20-06-2023	21-07-2023	Four Weeks
SAIL, Bokaro Steel Plant	INGOT COPPER FOUNDRY, STRUCTURAL SHOP, COLD ROLLING MILL(CRM-2) AND HOT STRIP MILL(HSM)	04-07-2023	29-08-2023	Four Weeks
ShapoorjiPallonji And Company Private Limited, EPC Division, SP Infocity, Incubator 2, Saswad Road, Pune, Maharashtra – 412308	Structural design Analysis using STAAD.PRO	26-06-2023	25-07-2023	Four Weeks
T K Enterprise 3/2 secondary road , A Zone, Durgapur 713204	CONSTRUCTION OF G+4 BUILDING	25-06-2023	25-07-2023	Four Weeks

Traders & Engineers Pvt. Ltd., 16A, Lake View Rd, lake Terrace, Kalighat, Kolkata, West Bengal 700029	Irrigation Works	01-07-2023	31-07-2023	Four Weeks
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Table No. 9.4.1c: Sample Internship List of the Computer Science and Engineering Students for Academic year 2025-2026

Serial no.	University Roll No	Name of the Students	Email Address	Mobile No.	Current Semester of the student	Subject Code (if any) or NA	Name and Address of the Organization where training / internship is completed	Start Date of training	End Date of training	Topic of the training/internship
1	12000122001	Aneek Maity	aneekmaity912@gmail.com	7001479023	Eight	NA	Vaidsys Technologies, Pune	05-07-2025	04-08-2025	Web Development
2	12000122002	AMRITA MANDAL	amritaswasti200220011@gmail.com	9153500275	Eight	NA	CELEBEL TECHNOLOGIES	02-06-2025	03-08-2025	Data Scientist
3	12000122003	SAYAN KUMAR DHAR	rickiddas1234@gmail.com	7584913446	Eight	NA	Damodar Valley Corporation DSTPS Andal	25-07-2025	08-08-2025	AI Powered system for real time emission monitoring and predictive analysis
4	12000122005	SHREYAK MUKHERJEE	shreyakmukherjeedgp@gmail.com	9832188947	Eight	NA	DAMODAR VALLEY CORPORATION (DURGAPUR STEEL THERMAL POWER STATION ANDAL)	25-07-2025	08-08-2025	Real Time Emission Monitoring & Prediction Using Deep Learning
5	12000122007	Sounak Moitra	sounakmoitra20042@gmail.com	8906868837	Eight	NA	DVC, Durgapur Steel Thermal Power Station (DSTPS), Andal	25-07-2025	08-08-2025	Vocational Training
6	12000122008	SUMAN CHOWDHURY	chowdhurysuman2004@gmail.com	9851292734	Eight	NA	CSIR - CENTRAL MECHANICAL ENGINEERING RESEARCH INSTITUTE, MAHATMA GANDHI AVENUE, DURGAPUR -713209	23-06-2025	21-07-2025	Federated Learning with Kolmogorov-Arnold Networks (KAN) for Personalized Human Activity Recognition using Wearable Sensor Data
7	12000122009	Rakesh Raushan	rakeshraushan403.123@gmail.com	9608143318	Eight	NA	AMJAM Solutions, Gurugram Haryana	19-05-2025	25-07-2025	WordPress Developer
8	12000122010	Navin Kumar Upadhyay	navinkumarupadhyay4@gmail.com	9279006421	Eight	NA	Yes	20-06-2025	27-11-2026	Yes
9	12000122012	Arijit Konar	arijitkonarofficial@gmail.com	9832498443	Eight	NA	Durgapur Steel Plant (Durgapur)	28-07-2025	08-08-2025	Vocational Training
10	12000122015	GAYANDIP LAYEK	connectwithdeep.ind@gmail.com	9832241021	Eight	NA	Indian Institute of Information Technology, Nagpur; (online)	01-07-2025	20-07-2025	Python Programming Essentials: From Basics to Beyond
11	12000122017	Suraj Kanti Singha	surajkantisingha680@gmail.com	9064246245	Eight	NA	Department of Computer Science and Engineering, IIIT Nagpur	01-07-2025	20-07-2025	Python Programming Essentials: From Basics to Beyond
12	12000122020	Survi Mukherjee	survi.mukherjee09@gmail.com	9932848896	Eight	NA	NIT Durgapur	02-07-2025	14-12-2025	AQI and Occupancy Estimation in Smart Classrooms using PSO Optimised Modes: AC VS Non-AC Multi-Floor Analysis

13	12000122023	ARITRA KESH	kesharitra1@gmail.com	8391013529	Eight	NA	Damodar Valley Corporation Andal(DSTPS ANDAL)	25-07-2025	08-08-2025	Vocational training
14	12000122025	Upasana Ghosh	upasanaghosh9151h@gmail.com	9064482557	Eight	NA	National Institute of Technology, Durgapur	07-07-2025	02-12-2025	Privacy-Preserving Kitchen Activity Classification Using Acoustic and Environmental Sensors with TinyML
15	12000122032	SNEHA CHAND	snehachand2022@gmail.com	9434502013	Eight	NA	NIT DURGAPUR	02-07-2025	14-12-2025	Context-Aware Cooking Activity Detection Using Flame sensing on Edge Device.
16	12000122037	Chand Mondal	chandmondal007@gmail.com	9883326980	Eight	NA	Department of Computer Science and Engineering, IIIT Nagpur	01-07-2025	20-09-2025	Python Programming Essentials: From Basics to Beyond
17	12000122041	Akash Ghosh	akashghosh.con@gmail.com	6202890510	Eight	NA	CTTC Bhuneshwar	01-07-2025	31-07-2025	AIML
18	12000122043	SAIKAT KARMAKAR	saikatkarmakar519@gmail.com	8388820087	Eight	NA	IIIT NAGPUR ,Waranga, Maharashtra	01-07-2025	20-07-2025	PYTHON PROGRAMMING SUMMER TRAINING
19	12000122044	Ramkrishna Modak	rkm2018123@gmail.com	9749757833	Eight	NA	Indian Institute of Information Technology, Nagpur (IIIT Nagpur) Waranga,Nagpur, Maharashtra, India	01-07-2025	20-07-2025	Summer Training Program on Python Programming Essentials: From Basics to Beyond
20	12000122045	Priyanshu Debnath	priyanshudebnath673@gmail.com	8158869705	Eight	NA	IIIT Nagpur	01-07-2025	20-07-2025	Python Programming Essentials: From Basics to Beyond
21	12000122049	Soham Dutta	duttasoham97@gmail.com	8926848078	Eight	NA	CSIR - CENTRAL MECHANICAL ENGINEERING RESEARCH INSTITUTE ,MAHATMA GANDHI AVENUE, DURGAPUR -773 209	23-06-2025	22-07-2025	"Framework for Object Detection, Segmentation and Dimensional Analysis of Manufactured Components"
22	12000122052	Soumyajit Saha	jitsaha567@gmail.com	7076871389	Eight	NA	Durgapur Steel Plant (SAIL), Durgapur-713203, Burdwan(West)	28-07-2025	08-08-2025	Vocational Training
23	12000122053	Arnab Guha	guhaarnab655@gmail.com	9647962950	Eight	NA	Damodar Valley Corporation (DSTPS - Andal)	25-07-2025	08-08-2025	Vocational training in DVC
24	12000122054	Prerana Basak	preranabasak9083@gmail.com	9798522324	Eight	NA	Celebal technologies	02-06-2025	03-08-2025	Data Science domain
25	12000122055	Sumana Chowdhury	sumanachowdhury621@gmail.com	8900149034	Eight	NA	Celebal Technologies	02-06-2025	03-08-2025	Data Science
26	12000122057	Soumyadeep Ganguly	soumyadeepganguly927@gmail.com	9749199375	Eight	NA	Durgapur Steel Plant	28-07-2025	08-08-2025	Industrial training focusing on the various processes of a Steel Plant and also their IT dept.

27	12000122059	Aanya Sinha	aanya3023@gmail.com	8102871053	Eight	NA	Name - Institute for advanced learning and skill development Address - Kolkata in remote mode	01-06-2025	30-08-2025	Data analytics
28	12000122060	Titiksha Dalal	titikshadalal@gmail.com	9474742860	Eight	NA	NIT Durgapur	02-07-2025	14-12-2025	Privacy Preserving Kitchen Activity Classification Using Acoustic and Environmental Sensors with TinyML
29	12000122062	Swati Dubey	swatidubey2052@gmail.com	7763971980	Eight	NA	CELEBAL TECHNOLOGIES and JAIPUR RAJESTHAN	02-06-2025	03-08-2025	DATA SCIENCE
30	12000122064	Samadrita Sinha	onlydisha01@gmail.com	9832565553	Eight	NA	DAMODAR VALLEY CORPORATION	25-07-2025	08-08-2025	Face Attendance
31	12000122067	Ankita Konar	ankitakonar2003@gmail.com	9333140488	Eight	NA	Ardent Computech Pvt Ltd	14-06-2025	28-07-2025	Face mask detection using cnn
32	12000122072	Ankita Ganguli	ashokganguli002@gmail.com	9609577719	Eight	NA	Eastern Coalfields Limited (ECL),Jhanjra Area	01-07-2025	31-07-2025	Vocational Training
33	12000122074	SHRUTI GUPTA	shr.197575@gmail.com	9264809978	Eight	NA	Celebal Technologies	02-06-2025	03-08-2025	Data Science
34	12000122077	Barun Kumar Singh	barunksingh2003@gmail.com	9635533644	Eight	NA	CSIR CMERI Mahatma Gandhi Avenue, Durgapur - 713209, West Bengal, INDIA	01-06-2025	08-07-2025	Object Detection using a Depth Camera and Radar
35	12000122079	Debnath Das	debnathdas504@gmail.com	8509360029	Eight	NA	Summer Training Program on Python Programming Essentials From Basics to Beyond , iit nagpur	01-07-2025	20-07-2025	Python programming
36	12000122081	Sandip Paul	paulsandip821@gmail.com	8250695249	Eight	NA	Eastern Coal Field Limited, Jhanjra Area	01-07-2025	31-07-2025	Vocational Training
37	12000122082	Kumar Hrishav	kumarhrishabh2002@gmail.com	6204742607	Eight	NA	Celebal Technologies jaipur (Virtual Internship)	02-06-2025	03-08-2025	Data Science
38	12000122083	Suhani Singha	suhanisingha.02@gmail.com	7029295931	Eight	NA	Ardent, Bidhannagar	01-07-2025	01-08-2025	Full Stack Development Using MERN
39	12000122085	RAJIB PRAMANIK	pramanikrajib.raja123455@gmail.com	8597537649	Eight	NA	Celebal Technologies,Jaipur, Rajasthan	02-06-2025	03-08-2025	Data Science
40	12000122086	Soumyaditya Bauri	soumyaditya.bauri@gmail.com	8927090964	Eight	NA	Chakramandal Education Pvt. Ltd. And Location: Krishnanagar	13-07-2025	10-01-2026	Computer Science Teacher Intern
41	12000122087	Pradip Chatterjee	pradipchatterjee723@gmail.com	9083366804	Eight	NA	Ecl Pandaveswar Area Office	01-07-2025	31-07-2025	Vendor Management System
42	12000122089	Subhajit Halder	haldersubhajit117@gmail.com	9474545326	Eight	NA	IIIT NAGPUR	01-07-2025	20-07-2025	Python Programming Essentials: From Basics to Beyond
43	12000122096	Rahul Sarkar	rahulsarkar050103@gmail.com	8250557386	Eight	NA	Celebal technologies	03-06-2025	03-08-2025	App Modernization
44	12000122100	SABYASACHI GANGABASI	sabyasachigangabasi75@gmail.com	6294550568	Eight	NA	Eastern Coalfield Limited, Area Office, Pandabeswar	01-07-2025	31-07-2025	Sap

45	12000122102	Somesh Mondal	someshmondal30@gmail.com	8391958700	Eight	NA	IIIT nagpur	01-07-2025	20-07-2025	Python programming
46	12000122103	Arindam Kundu	arindamkundu899@gmail.com	7047593010	Eight	NA	Andal	25-07-2025	08-08-2025	Steel Thermal Power
47	12000122107	Trishna Bhattacharjee	bhattacharjeetrishn7@gmail.com	9332983580	Eight	NA	Computer Society of India, Kolkata	22-07-2025	23-08-2025	Summer School on Deep Learning
48	12000122109	Ishika Panja	ishikapanja179@gmail.com	7908909594	Eight	NA	Ardent Computech Pvt. Ltd, Bidhanagar, Durgapur	26-06-2025	10-08-2025	Full Stack Web Development using MERN Stack
49	12000122110	Debleena Maity	maitydebleena01@gmail.com	8250068656	Eight	NA	Celebal Technologies and Jaipur, Rajasthan	02-06-2025	03-08-2025	Cloud infra And Security
50	12000122112	Siddhartha Pal	siddharthapal2004@gmail.com	8001161244	Eight	NA	Institute For Advanced Learning & Skill Development, Kolkata, West Bengal	05-03-2025	27-08-2025	AI/ML Internship
51	12000122113	SHREYA ROY	rshreya686@gmail.com	9083818869	Eight	NA	CODE GALAXY COMPANY, 10/11 bengal ambuja city centre durgapur, West Bengal	02-07-2025	16-08-2025	Web Development
52	12000122123	Ranit kumar Dey	dranit129@gmail.com	8145377321	Eight	NA	DVC, Andal	25-07-2025	08-08-2025	Durgapur Steel Thermal power Station
53	12000122124	SONAI KESH	sonaikesh3@gmail.com	9339042147	Eight	NA	DR.B.C.ROY ENGINEERING COLLEGE, DURGAPUR	01-07-2025	31-07-2025	3D Printing and additive manufacturing technology.
54	12000122126	ARPAN DEY	arpandey939@gmail.com	8250819438	Eight	NA	C-DAC, Dr. B.C. Roy Engineering College (Durgapur Center.)	01-07-2025	31-07-2025	Design and Fabrication of a Wind Turbine Model using CATIA V5 and 3D Printing
55	12000123127	ANKIT KUMAR	kumarankit2002bksc@gmail.com	7001065537	Eight	NA	SAIL / Bokaro Steel Plant (HRD / Training Centre) Address: Ispat Bhawan, Administrative Building, Bokaro Steel City – 827001, Jharkhand.	07-07-2025	30-08-2025	PROJECT COMPLETED ON OPEN SOURCE THREAT INTELLIGENCE SYSTEM AT SAIL BSL
56	12000123136	SURYA GHORUI	suryaghorui019@gmail.com	9775233758	Eight	NA	Centre for Development of Advanced Computing (C-DAC), Kolkata	01-07-2025	31-07-2025	3D Printing and Additive Manufacturing Technology
57	12031522016	Priya Rani	priya885049@gmail.com	7209888143	Eight	NA	Future Interns	22-06-2025	22-07-2025	Data Science & Analytics

9.5 Start-up and Entrepreneurship Activities (5)

Start-up and Entrepreneurship Activities

The institution has developed a robust ecosystem that promotes innovation, entrepreneurship, and start-up culture through multiple strategic initiatives and collaborations. A dedicated Entrepreneurship Cell (E-Cell), established in 2018 in collaboration with the Wadhvani Foundation under the National Entrepreneurship Network (NEN), serves as the backbone for nurturing entrepreneurial spirit among students. The Entrepreneur Development Cell (EDC) has also conducted various training programs aimed at fostering self-employment, start-up creation, and career enhancement.

Facilities created and Achievements across AY 2023–24 to 2025–26:

During the academic years 2023–24, 2024–25, and 2025–26, the institution has consistently strengthened its ecosystem for innovation, entrepreneurship, and knowledge transfer through a wide range of initiatives, infrastructure development, and active program implementation. The Research and Development (R&D) Cell has played a key role by motivating faculty to submit research proposals to national funding agencies, resulting in the successful sanctioning and completion of several projects, including AICTE-MODROB, PRISM-DSIR, and the Ankuraan project funded by the Ministry of Agriculture. The establishment of the AICTE-IDEA Lab with a funding of ₹39.5 lakhs significantly enhanced hands-on learning and innovation. Notably, the BCREC AICTE-IDEA Lab was ranked first among all such labs in India during AY 2022–23 and conducted numerous innovation-centric activities for both in-house and external students.

To promote intellectual property creation, the IPR Cell organized various workshops and webinars on IPR awareness and research methodology, leading to a notable rise in patent filings—13 patents were published and 16 granted in AY 2023–24 alone. The Institute Innovation Council (IIC) and the Entrepreneurship Cell (E-Cell), established in collaboration with the Wadhvani Foundation under the National Entrepreneurship Network (NEN), actively organized training programs, webinars, and startup workshops aimed at fostering the entrepreneurial mindset among students. The Entrepreneurship Development Cell (EDC) further supported career enhancement through self-employment and startup-oriented programs.

The institution also fostered industry-academia linkages through MOUs with reputed organizations such as RedHat Academy, Infosys Springboard, Capgemini Technology Services, CSIR-CMERI, VITTI Research Foundation, ISOAH Data Securities, and DCG Data Core System India Pvt. Ltd. These collaborations facilitated faculty and student training, internships, placements, and real-life project applications.

Modern facilities such as the “Texas Instruments Innovation Lab” and the “Advanced VLSI Design and Reconfigurable Computing Lab” in collaboration with CoreEL were established to support advanced research and design projects. Financial support for organizing Short-Term Training Programs (STTPs), national and international conferences, and symposiums was consistently provided, enhancing the academic and research environment. These integrated efforts have significantly contributed to skill development, innovation, and entrepreneurship among students, with outcomes such as a student team qualifying in the ISRO Robotic Challenge 2024 with a rover capable of stair climbing and autonomous navigation, exemplifying the institute’s success in fostering innovation-led academic excellence.

Table 9.5(a): Activity-wise analysis with beneficiary mapping

Sl. No.	Initiative	Purpose / Design Focus	Beneficiary Group
1	Transforming Buoyancy into Entrepreneurship	Entrepreneurial motivation and opportunity recognition	Engineering students interested in opportunity identification, entrepreneurship and product thinking
2	Seminar on Marketing and Branding - A Paradigm Shift in the Digital Era for an Entrepreneur	Branding, digital marketing and market positioning for entrepreneurs	Students interested in business model development, sales communication, branding and market access
3	Awareness of the Innovation Opportunity in the Field of Soft Robotics and Sensor Design	Innovation opportunities in sensors, soft robotics and deployable devices	ECE students, IEEE student members and learners interested in hardware innovation
4	Regarding Project Ideas and Possible Submission/Guidance of Projects in RKVY-RAFTAAR	Idea submission, project guidance and funded innovation pathway orientation	Students and project groups preparing problem statements and guided project submissions
5	Workshop on Building the Future: Harnessing Innovation and Strategy to Launch and Scale Startups	Startup launch strategy, scaling, entrepreneurship mindset and business execution	Students seeking knowledge on startup formation, innovation strategy and business scaling
6	Workshop on Effective Sales and Marketing Strategies for Entrepreneurs/Startups	Sales funnel, customer communication and marketing for entrepreneurs/startups	Students interested in product-market fit, customer acquisition and business communication
7	Seminar on Business Beyond Boundaries: Entrepreneurial Thinking for MBAs	Entrepreneurial thinking, opportunity expansion and business perspective building	Students interested in management, business development and venture thinking

8	Hackmaze 252K	Coding challenge, problem solving and rapid prototype logic	Students interested in coding contests, algorithmic problem solving and innovation challenges
9	Innovation and Future Trends in Industrial System & Instrumentation	Innovation in industrial systems, instrumentation and automation trends	Students/faculty learners interested in industrial technology trends and applied innovation
10	SDG 2K26 - Ideathon&Expo	Ideation, SDG-linked problem solving and innovation exhibition	Student teams proposing socially relevant ideas and prototype concepts
11	Workshop on Effective Sales and Marketing Strategies for Start-ups	Startup sales, marketing execution and customer outreach	Students preparing for startup/business projects and early-stage venture communication
12	World Innovation & Creativity Day	Innovation awareness, creativity orientation and institutional innovation culture	Students participating in innovation awareness and creativity activities under IIC linkage
13	Introduction to VLSI & Analog IC Design	Hardware design, IC design exposure and domain-linked innovation pathway	ECE students and IEEE/IIPC learners interested in semiconductor design and product-oriented electronics
14	Step into XR (AR, VR and MR) for 1st Year	Immersive technology awareness and digital prototype exposure	First-year students exposed to AR/VR/MR tools and creative technology applications
15	Step into XR (AR, VR and MR) for 2nd & 3rd Year	Prototype-oriented immersive technology exposure	Second and third-year students interested in AR/VR/MR applications and digital innovation
16	PCB and Circuit Designing Workshop	PCB design, circuit prototyping and electronics product development	Students interested in hardware prototyping, PCB layout and electronics design

Effectiveness and Impact:

These sustained efforts have significantly contributed to cultivating a culture of innovation and entrepreneurship. Students have demonstrated tangible outcomes through start-up initiatives, participation in national innovation challenges, and pre-incubation project development. Faculty members have expanded their research capabilities, resulting in enhanced academic and industry engagement.

List of Notable Beneficiaries:

Students: Team 10106 (ISRO Challenge), participants of IDEA Lab programs, interns via corporate MOUs

Faculty: Patent holders, research grantees, FDP and STTP participants

Start-up Aspirants: Participants in E-Cell and EDC programs

These initiatives, year-on-year, have contributed substantially to fostering a vibrant entrepreneurial ecosystem, resulting in measurable outcomes such as patent filings, student start-up participation, national competition entries, and enhanced industry readiness.

Table No. 9.5b: List of events exclusively for Start-ups and Entrepreneurship

Year	Name of the workshop/ seminar	Number of Participants	Date From – To
2025	Internal Hackathon – Smart India Hackathon (SIH)2025	336	18.09.2025-19.09.2025
2025	Workshop on “Entrepreneurship and Innovation as a Career Opportunity”	100	15.10.2025
2025	Workshop on Design Thinking, Critical Thinking and Innovation Design	90	27.02.2025-28.02.2025
2024	Demo Day/Exhibition/Poster Presentation of Ideas/PoC & linkage with Innovation Ambassadors/Experts for Mentorship Support.	70	02.11.2024-04.11.2024.
2024	Promoting Agri Startups: Invited talk on "Promoting Agri startups: Programs and Experiences from MANAGE-CIA "	52	06.06.2024 - 06.06.2024
2024	Workshop on Additive Manufacturing and Research Collaboration Possibilities	33	24.04.2024 - 24.04.2024
2023	Grooming future leaders for industry readiness	54	24.11.2023 - 24.11.2023
2024	Seminar on tenets of product management for budding managers	72	11.01.2024 - 11.01.2024
2024	Seminar on "Marketing analytics and marketing mix modelling"	83	25.01.2024 - 25.01.2024
2023	Scientific innovations into our everyday life	140	28-02-2023 -- 28-02-2023
2023	Expert talk on "Process of Innovation Development & Technology Readiness Level (TRL); commercialization of Lab Technologies & Tech- Transfer.	128	23-02-2023 -- 23-02-2023
2023	Seminar on Procedure to initiate Start-ups and Government Assistance for IT	332	28-03-2023 -- 28-03-2023
2023	Workshop on Business Model Canvas	45	25-04-2023 -- 25-04-2023

DR. B. C. ROY ENGINEERING COLLEGE

Conducting Internal Hackathon for SIH 2025

Objective: To prepare our students for the Smart India Hackathon 2025 and select the best teams to represent our college.

Venue: Albert Einstein Hall

Date: 18th Sept - 19th Sept, 2025
Time: 10:30 A.M - 05:00 P.M.

SPOC: Md. Keramot Hossain Mondal | Coordinator: Dr. Dinesh K. Pradhan

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Fig. 9.5a: Event report sample of the Entrepreneurship Development Cell (EDC)

 DR.B.C.ROY SOCIETY ENGINEERING An Autonomous Institute	 INSTITUTION'S INNOVATION COUNCIL (Division of Education Initiatives)
Institution's Innovation Council. Dr. B C Roy Engineering College, Durgapur.	
I.	Title of the Event: Internal Hackathon – SmartIndiaHackathon(SIH)2025
II.	Program Theme: Intra Institutional Hackathon
III.	Date & Time: 18th and 19th September 2025, 10.30 am to 5 PM
IV.	Duration: 12 Hrs
V.	Event Coordinators: Md. Keramat Hossain Mondal (SPOC) & Dr. Dinesh Kumar Pradhan (Coordinator)
VI.	Number of Student Participants: 336
VII.	Number of Faculty Participants: 15
VIII.	Number of External Participants, if any: Mention number (if any) or N/A
IX.	Expenditure Amount, if any: Rs. 20000 /-
X.	Mode of Session delivery: Offline
XI.	Speaker details, if any (50-100 words): Please Mention Speaker Details if any or N/A
XII.	Objective of the event (100-150 words): The main objectives are to identify and select the best teams while encouraging innovation and creativity among participants. It emphasizes applying theoretical knowledge to real-world challenges by developing practical solutions, prototypes, or ideas. The initiative also promotes teamwork and collaboration, helping students enhance communication, coordination, and problem-solving skills. Additionally, it focuses on building technical and presentation abilities, including coding, solution design, and effective idea pitching. Serving as a preparation platform for the national-level Smart India Hackathon, it provides hands-on experience in pitching ideas, building prototypes, and facing jury evaluations. Ultimately, the goal is to address real societal and industry problems—such as those in healthcare, agriculture, smart cities, and cybersecurity—by creating impactful and scalable solutions.
XIII.	Benefit in terms of learning/ Skill/ Knowledge obtained (150-200 words): Participation in the SIH 2025 Internal Hackathon enhances students' technical and practical skills by bridging the gap between theory and real-world problem-solving. It provides hands-on experience in technologies like AI, IoT, and cloud computing while developing critical thinking, design thinking, and teamwork abilities. Students also gain exposure to the full project lifecycle, improve communication and time management skills, and benefit from expert guidance. Overall, it boosts creativity, confidence, and readiness for competitions and future career opportunities.
XIV.	Feedback received from the guest/ participants: Yes

Fig. 9.5b. Details of the *Internal Hackathon – Smart India Hackathon (SIH) 2025* organized by the Institution's Innovation Council (IIC), Dr. B.C. Roy Engineering College, DugapurFig. 9.5c: Sample pictures of the *Smart India Hackathon (SIH) 2025*

9.6 Governance and Transparency (25)

9.6.1 Governing Body, Administrative Setup, Functions of Various Bodies, Service Rules, Recruitment procedures and Promotion Policies (10)

Institute Marks : 10.00

Governing Body, Administrative Setup, Functions of Various Bodies, Service Rules, Recruitment procedures and Promotion Policies

The institution has constituted both statutory and non-statutory administrative bodies to ensure effective academic and administrative governance. These include the Governing Body, Academic Council/Senate, Internal Quality Assurance Cell (IQAC), Grievance Redressal Committee, Anti-Ragging Committee, Disciplinary Committee, and the Internal Complaints Committee (Women Harassment Mitigation Committee), among others.

The institution has also published a comprehensive set of rules, service guidelines, policies, and procedures, which are periodically updated to align with regulatory norms and institutional needs. The year of publication of these documents is listed below.

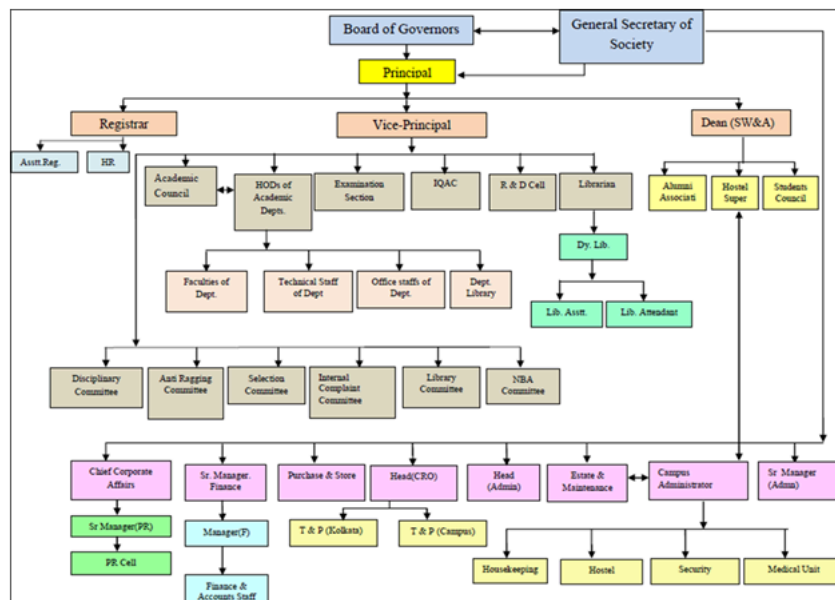


Fig. 9.6.1a: The organizational chart of the Institute

Governing body

The Board of Governors shall be constituted as per the guidelines contained in the Approval Process Hand Book of AICTE and / or the guidelines provided by the PCI / University. The current stipulations of the AICTE specify:

- v. The Board of Governors, hereinafter called the Board, shall have at least eleven (11) members including the Chairman and the Principal / Director of the College(s) / Institutes who shall also be the ex-officio Member Secretary of the Board. The total membership of the Board shall not exceed twenty- one.
- v. As prescribed in the Approval Process Hand Book which may be re-defined by the Statutory Authorities from time to time.
- v. The Chairman shall be nominated by the Society, and he should preferably be a technical person/ Entrepreneur/Industrialist or an Educationist of repute, and who is interested in the promotion of technical education.
- v. The Society may nominate four / five members from the Society.
- vi. Other ex- Officio members of the Board shall be :
 - o Nominee of the Affiliating University / State Council.
 - o Regional Director and ERO, Eastern Region, AICTE.
 - o Nominee of the AICTE.
 - o Nominee of the State Government - Department of Higher/Technical Education
 - o An Industrialist / Technologist / Educationist from the Region nominated by the Higher Education Department of the State Government.
 - o Two Faculty Members to be nominated from the Regular Staff- one at the level of Professor, and the other at the level of Assistant Professor.

The Board of Governors consists of eminent persons from Industries, academic Institutions, Research organizations and administration apart from members of Dr. B. C. Roy Engineering College Society, Durgapur.

Table 9.6.1a: The present members of the Board of Governors of Dr. B. C. Roy Engineering College, Durgapur

Sl. No.	Name	BOG Designation	Present Affiliation
1	Prof. B. K. Dutta	Chairman	Visiting Professor, School of Environmental Science and Engineering, IIT Kharagpur
2	Dr. Satyajit Das	Member	President, Dr. B. C. Roy Society
3	Mrs. Mita Mitra	Member	Vice-President, Dr. B. C. Roy Society
4	Sri Taras Bhattacharya	Member	General Secretary, Dr. B. C. Roy Society
5	Shri Jarnail Singh	Member	Treasurer, Dr. B. C. Roy Society

6	Prof. K. M. Hossain	Member	Professor, Electronics & Communication Engineering & Vice Principal
7	Prof. Sanjay Sengupta	Member	HOD, Civil Engineering & NMC Coordinator
8	Mr. Surajit Mishra	Member	Director Incharge, DSMSP & GUDASP
9	Dr. Narish Chandra Murmu	Member	Director, CSIR-CMERI
10	UGC Nominee	Member	Awaited
11	DTE	Member	Director of Technical Education or nominee
12	Prof. Bijan Sarkar	Member	Director, School of Management, Jadavpur University
13	Prof. (Dr.) Swapan Kr. Mondal	Invitee Member	Professor, Kalyani Govt. Engineering College, Representing Higher Education Dept., Govt. of W.B.
14	Prof. (Dr.) Sanjib Bhattacharya	Invitee Member	Educationalist
15	Prof. (Dr.) Arvind Choubey	Invitee Member	Director, NIT Durgapur, Educationalist
16	Prof. (Dr.) Sanjay S. Pawar	Member Secretary	Principal, BCREC
17	Prof. (Dr.) G. S. Panda	Invitee Member	Registrar, BCREC

- He shall preside over the Meeting of the Board of Governors. The meeting of the Board shall be organized with his consent.
- Accept resignation of any member of the Board who are otherwise not ex - Officio members nominated by the Affiliating University / AICTE / State Government nominees etc. The resignation shall be effective from the date the Chairman accepts the resignation.
- While each member of the Board, including the Chairman, has equal voting rights (one vote each), in the case of a tie, the Chairman shall have an additional casting vote.
- The Chairman may resign from his Office by a letter addressed to the General Secretary of the Society, and his resignation shall be effective from the date the resignation is accepted by the Society.

Powers and functions of the Board:

Subject to the provisions of Memorandum of Association of Dr. B. C. Roy Engineering College, Durgapur [Society], the powers and functions of the Board shall be:

The Board of Governors is a policy forming body of the Institute / Colleges relating to academic, administration and the various functions of the Board are:

- To prepare detailed plans and programs for efficient functioning of the various Colleges / Institutions set up by the Society, and ensure effective management and administration of the Colleges / Institutions.
- To formally approve the Budget of the various Colleges / Institutions set up by The Society, but the fiduciary limits shall be at the consideration of the Society.
- To discuss and approve the Annual / Activity Report(s) of the various Colleges / Institutes that depicts the functioning of the Colleges / Institutes and the proper utilization of funds allocated by the Society during the financial year under review. These reports shall be prepared by the Colleges / Institutes within three months at the end of the financial year. The approved reports shall be consolidated and submitted to the Registrar of Societies along-with the Audited Financial Statement of Accounts by the Society.
- To prescribe and conduct various courses of study, training and research in different branches of Engineering and Technology, Management, Computer Applications, Pharmaceutical Sciences that require approval from AICTE.
- To implement and observe various statutory requirements of the Approval and Affiliating Authorities and such other Government directives that may be advised by such statutory authorities from time to time.
- To ensure that all University Examinations are held as per Schedule, and without any disruption, and make necessary arrangements that have been stipulated in Statutes and/or Regulations of the University, AICTE and the State Government, and provide directions to employees of the Colleges/Institutes for the safe and efficient conduct of Examinations.
- To suggest measures that may have a direct bearing on employability of students, and to encourage Faculty in Research activities or in Project undertakings.
- To delegate to the extent necessary and appropriate, such powers and functions to any Officer or Committees for some specific jobs/ activities in consultation with the Society.
- To provide guidance and direct Officials of the Colleges/ Institutes for smooth and efficient management of academic activities and functions in furtherance of the objectives of the Colleges/ Institutions.
- To provide effective administrative set – up to supervise the Hall of Residences, Health and well-being of student/ boarders.
- To institute and award Scholarships, prizes and medals.
- To draw up standard force of Faculty (as per AICTE and University norms), and for other non- teaching Staff, as per requirement projected in consultation with the Society.

- To make, adopt, amend and modify or rescind Service Rules of the Colleges/ Institutes with due concurrence of the Society. Simple majority shall adopt such decisions.
- To provide directions to the various College/ Institution Officials in maintaining cordial relationship(s) with Government Bodies, Approving and Affiliating Authorities.
- The Board shall ratify appointments of Principals/ Directors and other senior-level appointments made by the Society.
- The enlisted functions are not exhaustive and the Board may consider other relevant issues for the betterment of Colleges and the stake-holders.

The Chairman and Board Members will be entitled to travelling and daily allowances for the discharge of their Official functions and for attending Board Meetings at Society determined amounts.

Meetings of the Board:

- The Board shall ordinarily meet thrice or four times a year. The Chairman may, call for a Special Meeting on receipt of written requisition of at least three members of the Board. The Members requisitioning the Special Meeting must specify the Agenda of discussion, and the Chairman must be satisfied of the genuine causes that have been specified in the Agenda.
- Regardless of any Casual Vacancy that may arise due to resignation of Members or due to defects in the appointment or nomination of Members, the proceedings and acts of the Board shall not be questioned merely on grounds of vacancy or defects in appointment/ nominations.
- Minimum fifteen days' notice shall be served on Members indicating Date/Time /Venue and Agenda of the proposed Board meeting.
- Attendance of One - third (including the Chairman) members shall constitute a quorum.
- In case of difference of opinion among members, the members shall have the right to vote, each member having one vote each, and the majority decision, shall prevail.
- In case of absence of the Chairman at a particular Board meeting, the members may choose among themselves, as to who shall carry out the functions of the Chairman for the said meeting.

The principal:

"Principal" shall mean the Principal of the Colleges/ Institutes established by the Society. They shall receive directions from the Board and implement various decisions of the Society/ Board and report to the Society and the Board. He/ She shall be the Chief Academic and Administrative Head of the College(s)/Institutions.

Job responsibilities for Principal: -

- The principal shall be the chief academic and executive authority of the institute and shall carry on the institutes objectives and business according to the rules and regulations framed by the Society/BOG from time to time.
- Exercise all powers as may be delegated to him by the Society/BOG.
- Can re-delegate some of his responsibilities to any of his subordinate officers, but will remain accountable for such delegation of powers.
- Can constitute committee(s)/sub-committee(s) for a specific purpose as also advisory committee(s) or body(s) as may be necessary for the convenience of administration
- Nominate experts for different bodies/committees whenever required.
- Act as the Chairman of the Academic Council and Internal Quality Assurance Cell (IQAC) of the Institute.
- Act as the Member-Secretary of the BOG and prepare the agenda depicting the total activities of the Institute during the interim period.
- To interact with AICTE/MAKAUT/Govt. bodies.
- To maintain and improve the level of excellence in all academic matters of the college, for which purpose he shall have the right to give direction wherever necessary.
- Oversee planning for diversification of academic activities in various directions and liaising with various funding agencies like AICTE, DST, DRDO, ISRO, CSIR, etc., for obtaining research grant.
- To review the Performance Appraisal Report (PAR) of all staff members.
- To look after students' discipline and employee welfare for effective and better management.
- To comply with the statutory requirements of the AICTE Approval and Affiliation to MAKAUT and other directives received from MHRD, AICTE, Govt of West Bengal, and MAKAUT.
- To look after the process and progress of NBA accreditation activities of various departments which are already accredited or which are under preparation for submitting application to NBA.
- Supervising the research activities of the college conducted through R&D Cell and providing guidance for submission of project proposals which are unique in nature and devoid of plagiarism.
- To establish collaboration with reputed Academic Institutes and Industries in submitting project proposals for funding.
- Monitoring the academic excellence of the college conducted through Academic Council and oversees the decisions/measures adopted in the Academic Council with regard to teaching, research and publications are adhered to.
- Sanction of the registration fees and granting special leave to the faculty members to attend conferences of good repute in an academic year as well as grant of incentives to the faculty members on publishing a paper in reputed journals.
- Advising the academic departments to arrange Faculty Development Programs (FDPs), Training of Trainers (ToTs) and Summer/Winter School at the Institute as per AICTE guidelines.
- Advising the departments to conduct all academic and administrative activities of the department after discussing in the Departmental Academic Council (DAC).
- Evaluation of implementation of MOOCs courses mandated by AICTE and MAKAUT through MOOCs Coordination Committee.
- Preparation of Activities Calendar for Co-curricular and Extra-curricular activities as part of Mandatory Additional Requirements (MAR) prescribed by MAKAUT and oversee the organisation of such activities throughout the semester.
- Monitoring the conduct of classes as per class schedule and take necessary action in case of unauthorized absence of faculty members in the scheduled class.
- Make sure that a cordial relation among all levels, faculty/staff members and the students are maintained.
- Evaluation of performance of the faculty members through Appraisal Committee.

- Forwarding with recommendation the purchase requirements of the departments after thorough scrutiny.
- Establishment of On-line Grievance Redressal Mechanism and take appropriate measures to address grievances.
- Take necessary steps to make the campus free of Ragging as per directives of Supreme Court of India and guiding the Anti-Ragging Committee as Chairman for preventive measures.
- Take appropriate measures for students' indiscipline as Chairman of the Disciplinary Committee.
- Recommend appointment of temporary/adjunct faculty if the situation arises.
- Sanction all types of leave except CCL/Special Leave to the teaching and non-teaching staff.
- To nominate any senior faculty member to officiate on his behalf during his absence, with permission from the Society.
- To exercise such other powers and perform such other functions as may be assigned to him by the BOG.

Job Responsibilities for Vice-Principal

- Vice-Principal shall act as Deputy Executive Authority of the Institute and shall carry out the business of the Institute as may be delegated to him by the Principal.
- The Vice-Principal shall be directly responsible to the Principal of the Institute for the proper discharge of his duties and functions.
- Exercise all powers as may be delegated to him by the principal.
- Act as a bridge between the Principal's office and the academic departments.
- Act as a Member of the Academic Council and Internal Quality Assurance Cell (IQAC) and monitor the academic excellence of the college conducted through the Academic Council and IQAC and oversee the decisions/measures adopted in the Academic Council/IQAC with regard to teaching, research and publications are adhered to.
- Act as the Member of the BOG as Faculty Representative.
- To interact with AICTE/MAKAUT/Govt. bodies, whenever necessary.
- To maintain and improve the level of excellence in all academic matters of the college for which purpose he shall have the right to give direction wherever necessary under the supervision of the Principal.
- Oversee planning for diversification of academic activities in various directions and liaising with various funding agencies like AICTE, DST, DRDO, ISRO, CSIR, etc., for obtaining research grant under the guidance of the Principal.
- Formulate strategic plans to improve the quality of teaching and utilise teaching- learning resources effectively.
- To act as an invited member of the Departmental Academic Council meeting as Principal's representative. Advise the departments to conduct all academic and administrative activities of the department after discussing in the Departmental Academic Council (DAC).
- Supervise the research activities of the Institute conducted through R&D Cell and provide guidance for submission of project proposals wherever necessary.
- To establish collaboration with reputed Academic Institutes and Industries in submitting project proposals for funding, as assigned by the Principal.
- Coordination and guidance to the departments for securing the National level certification like NBA, NAAC and NIRF.
- To ensure data collection and scrutiny of reports prior submission to various accrediting agencies.
- Proper framing and implementation of class routine for each semester and take active part in class routine Management.
- Maintain liaison with HoDs regarding students' attendance, load distribution of teachers.
- Screening and recommending application from the faculty/students for the following purposes:
 - Recommend reimbursement of the registration fees and grant of special leave to the faculty members to attend conferences of good repute in an academic year.
 - Recommend grant of incentives to the faculty members on publishing a paper in reputed journals.
- Facilitate the academic departments to arrange Faculty Development Programs (FDPs), Training of Trainers (ToTs) and Summer/Winter School at the Institute as per AICTE guidelines.
- Liaise with Examination cell for the proper conduct of internal and University Semester Examinations.
- Oversee the procurement of Books/journals for the libraries and act as a bridge between the Principal and Library Committee.
- Obtain Student's feedback on faculty members so as to ensure that academic standard are meet.
- Evaluation of implementation of MOOCs courses mandated by AICTE and MAKAUT through MOOCs Coordination Committee.
- Preparation of Activities Calendar for Co-curricular and Extra-curricular activities as part of Mandatory Additional Requirements (MAR) prescribed by MAKAUT and oversee the organization of such activities throughout the semester.
- To review Performance Appraisal Report (PAR) of all staff members as part of Appraisal Committee.
- Make sure that a cordial relation among all levels, faculty/staff members and the students are maintained.
- Forwarding with recommendation the purchase requirements of the departments after thorough scrutiny and be an ex-officio member of Purchase Committee.
- Sanction all types of leave to the teaching and non-teaching staffs, as assigned by the Principal, except CCL/Special Leave.

Job responsibilities for Dean (Students' Welfare and Alumni)

- The Dean (Students Welfare and Alumni) shall be a Professor of the Institute and shall be appointed by the Principal.
- The Dean (Students' Welfare and Alumni) shall be directly responsible to the Principal of the Institute for the proper discharge of his duties and functions.
- The Dean (Students' Welfare and Alumni) shall exercise such powers and perform such duties as may be delegated or assigned to him by the Principal.
- To perform his duties in close coordination with Campus Administrator.
- To look after the requirements, welfare and benefit of the general day scholars and hostel's boarders. The Superintendents of the hostel will report to him.
- To organize and supervise students' fest and events like Fresher's Welcome/Farewell /Cultural and Tech fests.
- To organise Annual Sports/Games.
- To look after Alumni Affairs including Membership and organize Annual Alumni Meet and propose budget requirements for the Alumni Meet.

- Address students' grievances and form committees to execute the above job.
- Be the chairman of the college Students' Council with faculty and the students representatives as member of the council and hold regular meeting to discuss students' academic and administrative issues.
- Be the chairman of the college Hostel Council that shall include all hostels within the Institute premises with Campus administrator, Hostel Superintendents, Wardens/Matrons and students representatives (optional) as member of the council, hold regular monthly meeting to discuss Hostel Management issues.
- To check the feedback registers and suggestion boxes weekly or fortnightly, easily accessible to students /boarders at each of the hostels and invite students to provide regular feedback on meal arrangement, meal menus, general cleanliness and hygiene at the hostels and discuss with the canteen contractor to address the shortfalls; based on the feedback, the tenure of running the canteen can be extended or reduce.
- To organize regular meeting with Parents/Guardians of Students/Boarders to identify the needs and requirements of the students/boarders.
- Act as the Member of the Academic Council and Internal Quality Assurance Cell (IQAC) and monitor the academic excellence of the college conducted through Academic Council and IQAC.
- Forwarding with recommendation the purchase requirements of the students for cultural/extra- curricular activities after thorough scrutiny and be an ex-officio member of Purchase Committee.

Job responsibilities for Head of the Departments (HODs)

- The Head of the Department is selected on the basis of academic qualification, teaching, R&D and administrative performance evaluated by the Director/Principal in consultation with the General Secretary of the Society.
- Head of every Department acts under the general supervision and control of the Director/Principal of the College and his/her duties and functions is to administer the academic and administrative affairs of the Department concerned in accordance with the guidance of the Director/Principal and as per the policy of the authorities.
- HoDs actively participate in Teaching, Research, Publication, Real world knowledge application and Administrative work.
- HoDs are the overall in-charge of the department and exercise general supervision over teaching and non-teaching members of the staff of the department.
- HoDs always maintain the academic standard in the departments. In addition, to the allotment of classes to the teachers, he/she assess the workload of the teachers, lab Instructors and other technical persons in the department, requirements of staff members etc.
- He/she maintains a liaison with the other departments.
- He/she keeps vigil about the quality teaching in every theoretical and practical subject as per syllabi of the University, to keep the image of the college.
- Takes necessary action for holding of all classes regularly and for proper functioning and maintenance of the departmental laboratories and workshops.
- Periodically convenes meetings of Departmental Academic Council as Chairman with the agenda and the time of the meeting being decided upon in the preceding meeting so that no notice is circulated. The names of the members of the intra-departmental committee are submitted to the Director/Principal at the beginning of each Semester. In the meetings generally the progress in classes, attendance of students and progress of research activities, achievement of students and the teachers in the departments are discussed and reviewed.
- Inform the students/parents and guardians regarding the attendance and the performance of the students in semesters on minimum two occasions.
- Arranges proper maintenance of stock book, issue register etc., in respect of equipment, consumables and stationery items.
- Prepares proposals in consultation with colleagues for purchase of equipment and forward the same to the Director/Principal
- Initiates research activities, collaborative research projects in the department and encourage the faculty members to submit proposals to PMIL Cell to secure fund from external funding agencies.
- Provides effective leadership towards Industry-Institution interaction and partnership for academic development of the students, organization of special lectures, seminar, workshops by the industry professionals for total development of the future professionals.
- Provides advice and suggestion regarding purchase and preservation of books or other resources in the Departmental Library.
- Inspires the faculty members for publications in peer-reviewed journals, National/international conferences keeping originality and devoid of plagiarism.
- Faculty/Teaching Skill Development Program to be planned by the HOD based on need analysis of all the concerned faculty and technical staff members.
- Gives leadership in NBA accreditation activities of the department.
- Advises the faculty members for outcome-based teaching-learning processes following the NBA guidelines.
- As part of Real world knowledge Application, encourages consultancy and project work amongst faculty members as per norms in consultation with the Director/Principal. The said activities, progress and achievement are recorded in the meeting of the Departmental Committee.
- Ensures that at least one seminar of State level is organized by his department in each semester.
- Advises the faculty members to create on-line question bank following Bloom's taxonomy.
- Participates in Academic Council and discuss the pertinent departmental issue for the benefit of teaching-learning process.
- Conducts arrangement of class tests as per academic calendar of MAKAUT.
- Oversees the submission of assignments of the students as per schedule.
- Evaluates the students' performance in the semester examinations and suggesting remedial measures for improving the performance.
- Coordinates with T&P cell to facilitate students' professional training and placement opportunity.
- Encourages the students to register for various MOOCs courses, NPTEL, Spoken Tutorial Project of IIT-Bombay, etc. mandated by AICTE and MAKAUT through MOOCs Departmental Coordinator to earn the B.Tech degree and B.Tech degree with honours effective from 2018-19.
- Advises the students to participate in various Co-curricular and Extra-curricular activities as part of Mandatory Additional Requirements (MAR) prescribed by MAKAUT to earn the B.Tech degree and B.Tech degree with honours effective from 2018-19.
- Releases the faculty members to be the examiner of MAKAUT.

- Participates in central meetings of Anti-Ragging Committee and Disciplinary Committee.
- Encourages the faculty members for the administrative duties of the college, viz. anti-ragging duties, semester examination, roving duties, duties on various co-curricular and extra-curricular activities of the college.
- Takes classes at PG levels/UG levels to have interaction with them which will help the growth of the department.
- Participates in Selection Committee/Appraisal Committee as a Member.
- Take feedbacks from the students in informal way on regular basis and in a formal manner once in the semester for onward submission to the Director/Principal.
- Ensures that faculty members hold regular (i.e. two meetings in each semester) interaction with Class Representatives (CR) in his/her presence, to resolve ongoing issues and healthy student-teacher relationship with all dignity.

Professors & Associate Professors of the Institution:

- Professors and Associate Professors actively participate in Teaching, Research, Publication, Real world knowledge application and Administrative work as per work distribution assigned by the HoD.
- Professors and Associate Professors assist HoDs in academics and administration of the department and contribute to policy planning, Monitoring & Evaluation and promotional activities both at Departmental and Institutional level.
- As far as management of the academic affairs of the Department concerned the Professors and Associate Professors take active participation in the Departmental Committee as advised by the HoDs.
- As a part of academic affairs, the Professors and Associate Professors impart knowledge to the students by taking regular classes, tutorial classes and remedial classes on regular basis. They also guide the faculty members regarding the need of Laboratory Development and to improve the quality of the Lab classes and so on.
- The Professors and Associate Professors implement Faculty Development Programme, Conduct departmental Workshop and Seminar and also monitor and evaluate academic activities.
- The Professors and Associate Professors encourage the students to register for various MOOCs courses and to participate in various Co-curricular and Extra-curricular activities as part of Mandatory Additional Requirements (MAR) prescribed by MAKAUT to earn the B.Tech degree.
- Professors and Associate Professors also provide research guidance to the junior faculty members and the students of the department. Ensure Publication Work and also design and development of new programmes as suitable for the students.
- Professors and Associate Professors are most suitable for Real world knowledge application, they provide leadership in external revenue generation program such as consultancy, sponsored project, sponsored research, contract research, (including funding proposal), seminar, laboratory development; modernization, expansion, promotion of entrepreneurship and job creation, to implement brand building of the department, providing technical support etc.
- Contribute to the industry readiness program organized by the T&P Execution Committee in the campus.
- The Professors and Associate Professors undertake the responsibility to bring sponsored research project and industrial consultancy work.
- Professors and Associate Professors devote significant time and energy for the mentoring of the students round the year as allotted year-wise.
- Any other responsibility given by the Director/Principal or by the HOD.

Assistant Professors of the Institute:

- Assistant Professors actively participate in Teaching, Research, Publication, Real world knowledge application and Administrative work as per work distribution.
- Assistant Professors are closely involved in the semester examination process as per guidance of In-charge Examination Cell and HOD.
- Assistant Professors take regular classes, tutorial classes and remedial classes on regular basis, laboratory development and lab classes, preparation of lesson plan, teaching materials, publications and full implementation of online examination system.
- As a part of academic affairs, the Assistant Professors participate in Faculty Development Programme, departmental workshop, seminar for continuous quality improvement of teaching learning process.
- Assistant professors are actively involved in Research and Project, Publication work, and design/development of new programmes as suitable for the students.
- Assistant Professors actively take part in extracurricular, cultural and social service activities of the college as member of respective college committees and cells.
- Assistant Professors devote significant time and energy for the mentoring of the students round the year as allotted year-wise.
- Assistant Professors involve themselves in research and development. They must try to publish research papers and engage themselves accordingly for research work.
- Assistant Professors take active role in the Departmental Committee as directed by the HOD.
- Assistant Professors help the students for MOOCs' registration.
- Any other responsibility given by the Director/Principal or HOD.

Technical Assistant, Lab Instructor, Workshop Superintendent of the Institution:

- The Technical Assistants, Lab Instructors and Workshop Superintendents actively participate in laboratory development, preparation of laboratory manual, charts and conducting lab / workshop classes with full practical knowledge duly guided by concerned faculty members, who are in charge of the laboratory.
- Workshop / Laboratory staff may be attached to one or more laboratory / laboratories or workshop / workshops and are responsible for the following functions:
 - Primarily maintain the equipment, instruments, glass wares, tools etc., ready for use and causing repair/cleaning of the same as and when necessary or so instructed.
 - Assist the Faculty-in-Charge in preparation of process / instruction sheets / manuals of experiments to be performed by students as also in keeping the experiments ready for classes.
 - Assist the Faculty-in-Charge in the conduct of continuous assessment and in the conduct of class test, as and when asked for.
 - Prepare purchase indents for workshop/laboratory materials as per decision of the Faculty-in-Charge.
 - Issue & receipt of materials/tools/instruments, as required.
 - Maintain stock records in respect of all instruments / equipment and consumables used in the workshop / laboratories.

- Assist faculty members in carrying out Research/Project Work, as and when asked for.
- In case any other assignments given by the departments or Administrative Office, he/she participates in the activities/events related to college affairs.
- Actively involved in multiple college activities as member of various cells duly nominated by HODs.
- In the event of modification in the syllabus the concerned technical staff members need to be updated and trained by the senior faculty members to implement the modifications appropriately.
- Any other responsibility given by the Director/Principal or by the HOD.

In-Charge of Examination Cell:

- Prepares guidelines for teachers to prepare Question papers for different examination as per the guidelines of the University.
- Prepares precise and lucid instructions regarding
 - Pattern of question paper
 - Types of questions
 - Rational marks allotted to different types of questions (d) language of instruction, etc.
- Issues Circular to the faculty members regarding submission of question papers, uploading marks on time and any other required documents as per the University Notification.
- Prepares Subject-wise Question Bank in coordination with concerned faculty members as per the Notification of University.
- Assists the Principal to form a subject expert committee to ensure the quality of question paper (applicable for centralized class test)
- Ensures availability of necessary items to conduct Semester Examinations i.e. question paper, answer sheets, Mark sheets, thread and other stationary items and required funding for the same.
- Makes proper seating arrangement for students for different examinations.
- Makes Examination Time Table with the consent from Principal as per routine of University.
- Prepares Examination Duty Charts for the faculty and staff members.
- Keeps records of all the examination held in the college in soft as well as hard copy under his custody.
- Ensures that final year Grade cards are issued only to such students who produce a clearance certificate from the concerned authorities.
- Conducts Examination of other agencies like WBJEE, JEE MAINS, IIT-ENTRANCE, NEET, CRPF, WBSSEDCL, PUBDET, AMPI, EVETS, CET, JENPAUH, JEE- ADVANCE etc., as directed by the Society and makes proper arrangement for the same under his exclusive supervision.

Librarian of the Institute:

- Librarian is responsible for smooth and effective operation of the college library.
- Implement the appropriate systems required for providing Library Services to the students, teachers and other categories of staff.
- General administration of the standard library functions.
- Maintain records for all books/journals /periodicals.
- Manages the planning, administrative and budgetary functions of library.
- Establish and implement library and information policies and procedures.
- Responsible for procurement planning in consultation with respective HoDs and the Director/Principal.
- Develops and manages convenient, accessible library and information services.
- Prepares and manages the budget for library.
- Orders materials and maintains records for payment.
- Analyzes and evaluates library requirements.
- Prepares reports related to library services, resources and activities.
- Smooth and effective operation of the library.
- Procurement planning in consultation with Director/ Principal and HOD
- Software Implementation/up gradation.
- Provides effective access to library collections and resources, maintain the organization of library materials.
- Provides library services in response to the information needs of library users and perform other related duties.
- Shelving of books and reading materials
- Pasting/stamping and other processing of books
- Any other responsibility given by the Director/Principal and HOD.

Academic Council

Table 9.6.1b: Present members of the Academic Council of Dr. B. C. Roy Engineering College.

Sl. No.	Name & Designation	Role
1	Prof.(Dr) Sanjay S. Pawar, Principal, BCREC	Chairman
2	Dr. Mrinmoy Chakraborty, HOD-ECE, BCREC	Member
3	Dr. Dinesh Pradhan, HOD-IT, BCREC	Member
4	Prof.(Dr.) Raj Kumar Samanta, HOD-CSE, BCREC	Member
5	Prof.(Dr.) Sanjay Sengupta, HOD-CE, BCREC	Member
6	Prof.(Dr.) Gour Sundar Mitra Thakur, HOD-CSE (AIML), BCREC	Member
7	Dr. Chandan Bandyopadhyay, HOD-CSE (DS), BCREC	Member
8	Dr. Poulmi Mukherjee (Tiwari), HOD-CSD, BCREC	Member
9	Dr. Shibendu Mahata, HOD-EE, BCREC	Member
10	Dr. Soham Bandyopadhyay, HOD-CSE (CS), BCREC	Member
11	Prof.(Dr.) Chandan Chattaraj, HOD-ME, BCREC	Member

12	Dr. Arnab Bandyopadhyay, HOD-BS&H, BCREC	Member
13	Prof.(Dr.) Arunava Mukherjee, HOD-FMS, BCREC	Member
14	Dr. Pabitra Kumar Dey, HOD-MCA, BCREC	Member
15	Prof.(Dr.) K.M. Hossain, Professor, ECE and Vice Principal, BCREC	Member (Teacher Representative)
16	Dr. Subhashis Pal, Associate Professor, BS&H and COE, BCREC	Member (Teacher Representative)
17	Mr. Prabal Sahu, Assistant Professor, IT and Training & Placement Incharge, BCREC	Member (Teacher Representative)
18	Prof.(Dr.) Alok Saha, Professor, ECE & Chairman, IIC	Member (Teacher Representative)
19	Dr. Soumen Sen, Scientist, CMERI	Expert Member
20	Prof.(Dr.) Tandra Pal, Professor, CSE, NIT Durgapur	Expert Member
21	Prof.(Dr.) Jaya Bandyopadhyay, Professor, Biotechnology, MAKAUT	Member (University Nominee)
22	Prof.(Dr.) Sujit Mukherjee, Professor, Dept. of MBA, MAKAUT	Member (University Nominee)
23	Prof.(Dr.) Nabendu Chaki, Professor, CSE, CU	Member (University Nominee)
24	Prof.(Dr.) G. S. Panda, Registrar, BCREC	Member Secretary

Powers and Functions of Academic Council:

The Academic Council will carry out following responsibilities:

- Scrutinize and approve the proposals of the HODs with regard to courses of study, academic regulations, instructional and evaluation arrangements, methods, procedures relevant thereto, panel of examiners etc. provided that where the Academic Council differs on any proposal, it will have the right to return the matter for reconsideration to concerned HODs or reject it, after giving reasons to do so.
- Make regulations regarding the admission of students to different programs of study in the Institute.
- Make regulations for sports, extra-curricular activities, and proper maintenance and functioning of the playgrounds and hostels.
- Make proposals to the Society/Board of Governors for establishment of a new department/centre for study and research.
- Recommend to the Society/Board of Governors proposals for institution of new programmes of study.
- Recommend to the Society/Board of Governors for providing of scholarships, studentships, fellowships, prizes and medals, and to frame regulations for the award of the same.
- Perform such other functions as may be assigned by the Society/Board of Governors.

Apart from the above activities considering the Institutional growth the academic council will monitor some more activities. The functionalities and construction of the Council is as under:

Purpose

To inculcate the philosophy of shared governance, and involves the active participation of:

- Academics (Faculty Members)
- The College Administration.
- The Management (the Society)

Responsibilities:

- Meet the statutory provisions of Approval and Affiliation, and take timely action as may be specified.
- Revenue collections (fees/charges & such other collections)
- Observance of stipulations from various statutory bodies, and ensures compliance (eg. Stipulations on Ragging from the Hon'ble Supreme Court.)
- Liaison with local government bodies and maintains rapport with the industry.
- Deliberate on the recommendations of the Departmental Council, and if the recommendations are worth considering, apprise Management of action necessary or to be taken.
- Set placement goals, explore ways and avenues for placement of students and suggest measures to achieve goals.
- Formulation of plans for academic administration and submission to the Management.
- Grievance Handling-of students, staff, and faculty members.
- Ensure well-being of woman faculty and woman staff so that they are not subject to harassment.
- Recommend to the Management Career advancement plans of faculty,
- Travel and other discretionary grants to be given to faculty for participating in seminars / conferences / workshops.

Membership:

The academic council should be ideally represented by:

- Principal/Director, who shall preside over the Academic Council Meeting and who shall oversee the working of the Academic Council.
- Head of the Departments.
- One responsible member of the College Administration.
- The representative of the Management may be co-opted as invitee.
- Each discipline should be represented in the Academic Council.

Role of the Chairman of the Council:

- The Chairman is the ex-officio member of the Academic Council.
- The Chair shall be responsible for providing direction, and supervision of the administrative personnel of the Academic Council.
- The Chairman of the Council should ensure that the Council meetings are held monthly or, at least three times each Semester, or as often, as is necessary in emergency situation (for eg. in disciplinary cases and/or instances of —ragging!) to devise plans for the smooth conduct of the academic session.
- The Chairman of The Academic Council shall nominate a member to act as the Convener to maintain the MoM, and forward copies of the minutes to the Management.

- The Chairman shall report to the Management.

Responsibilities of Academic Council Members:

- Promote and support the mission of the College.
- Abide by the policies and decisions of the Academic Council.
- Advocate the policy positions of the Academic Council at all levels of College governance.
- Communicate actions of the Academic Council to other faculty in her/his department.
- Recommend and assist The Chair of Academic Council to implement decisions of the Council in his department, and provide regular feedback on the progress of implementation or difficulties faced in the implementation.
- Develop and maintain a working knowledge of the Academic Council and its role in governance of the College functions.
- Serve on committees and/or task forces voluntarily or as requested.
- Prepare for each Council meeting by reviewing meeting materials and formulating questions and responses to issues.
- Attend meetings regularly.
- Act as the coordinator in the department he represents; he may obtain views of his colleagues/ admin. Staff / laboratory staff attached to his department before drawing departmental agenda.
- The aforesaid list is illustrative and not exhaustive. It may also include other functions to suit the environment.

Administrative Staff:

Registrar

- The Registrar shall be a whole-time officer of the Institute and shall be appointed by the Society in consultation with the Principal. His/her appointment however has to be intimated to the Board in due course. The Registrar shall be directly responsible to the Principal of the College for the proper discharge of his duties and functions. The Registrar shall exercise such powers and perform such duties as may be delegated or assigned to him by the Principal.
- Assist the Principal/Vice-Principal in all activities of Academic-Administration of the Institute.
- Oversee maintenance & supervision of class rooms, laboratories, hostels, canteen, etc.
- Comply with statutory requirements of the AICTE Approval and Affiliation to MAKAUT and other directives received from MHRD, AICTE, Govt. of West Bengal, MAKAUT, NBA, NAAC, etc.
- Comply with all MAKAUT statutory requirements and CWMS (FIS and IIS), etc. NBA, NAAC
- Coordination with academic departments to provide statutory information for submission of NBA (SAR) and NAAC (SSR).
- Comply with directives of Higher Education Department, Govt of West Bengal, for admission related data and preventive ragging measures.
- Submit the on-line data related to All India Survey on Higher Education to MHRD.
- Develop/maintain a semester-wise manpower plan for academic & non-academic members of staff.
- Take necessary action for issuance of appointment orders by the General Secretary for all regular and contractual employees of the Institute.
- Coordination with Staff Appraisal Committee and takes action for regularization of services of the employees and issuance of the confirmation orders by the General Secretary after completion of probationary period.
- Maintain all employment records (Personal files, up-gradation / promotion) including attendance / leave records etc., and employee database.
- Responsible for providing information pertaining to compliance of employment related statutory requirements
- Ensure staff discipline and good work practices. If any misbehaviour is observed on the part of the employees, should inform the Director/Principal and the General Secretary and act as per their advice.
- Responsible for salary administration / revision as per directives of AICTE and MAKAUT in consultation with Director / Principal and General Secretary.
- Send monthly leave records to the Accounts Section for disbursement of salary every month.
- Act as a Convenor of the Disciplinary Committee and shall interact with Law enforcing Authorities, if situation warrants.
- In case of execution and implementation of any decision regarding general administration within college, the Registrar should act in close coordination with the Director/Principal.
- All admission shall be done, as per regulation, through the Registrar under the direct supervision of the Director/Principal and Society.
- All Registration with the University shall do under supervision of The Registrar.
- Maintain all the records as per the university norms & will be custodian of all records and statues.
- Looks after students' affairs of the college and hostel including discipline as well in close coordination with HoDs of the departments and the Campus Administrator.
- Looks after the day-to-day administration of the college in consultation with Principal and the Vice-Principal.
- Looks after the scholarship matters of the students (WBFS, NSP, Bihar, Jharkhand, U.P., Swami Vivekananda, Oasis, West Bengal Students' Credit Card, etc.).
- Looks after the issuance of identity cards of the students and the staff.
- Responsible for supervision and control of all non-teaching members or staff of the Institute and may allocate duties to non-teaching staff in different areas.
- Review Performance Appraisal Report (PAR) of Non-teaching members or staff.

General Manager (Admin.)

- Administrative functions allocated by the General Secretary of the Society.
- Liaise with local and civil administration to ensure the smooth running of the establishments.
- Preparation of Annual Report of the Society.
- Recording of Minutes of the meeting of the Society.
- Prepare an MOU between the college and any other Institute/Industry.
- Make arrangements for transport facilities for staff members and the students.
- Maintains student database.

Manager, Public Relations

- Handling the Print Media Section.
- Supervising the printing of prospectuses for all four colleges under BCREC Society.
- Arranging and coordinating School Connect programmes.
- Monitoring and coordinating all activities and assignments of the Public Relations Department.

Head - Training and Placement

- The Head of the Training & Placement will be responsible for all activities related to the training of the students to enhance their interview-winning skills in consultation with the Director/Principal and Head of the T&P Execution Committee (Campus) and Head of the Departments.
- The Head of the Training & Placement shall maintain all databases of the students necessary for the placement of the students.
- Head of the Training & Placement will take the initiative along with his team members to make visits to different Companies in order to build up a good industry-institute relationship.

- Coordinate with T&P Execution Committee (Campus) for arranging training programmes for: i. Soft skills, ii. Aptitude, iii. Group Discussion, iv. Essay writing, v. Mock interviews, etc. through in-house team and experts from outside, if required.
- Organize pre-placement training/seminar/workshop to facilitate the students for proper grooming.
- Inform the students of core streams, particularly Mechanical, Civil and Electrical about the scope of job opportunities in Government Sector and PSUs.
- Head of the Training & Placement advises his team to keep the students informed about all activities of his/her Cell, which are related to students training & placement.
- Advises his team to update the website of the Institute with latest results, achievements and placement records.
- Maintains records of employment of the students with appointment letters.
- Attempts hard to achieve employment percentage as per requirement of NBA.
- Sends his team members to collect information about prospective job fairs.
- Head of the Training & Placement before taking any final decision always consults the General Secretary/Director/Principal and Head of the T&P Execution Committee (Campus).
- Head of the Training & Placement will maintain all records needed by the corporate for placement of the students.

Campus Administrator

Campus Administrator reports to the General Secretary of the Society as well as Director/Principal and has following functions:

- Overall In-charge of BCREC group college campuses and hostels to maintain total discipline within the campus including students 'discipline in the hostels in close coordination with Chief Hostel Superintendents and other Hostel Superintendents.
- General Upkeep and Maintenance of the campus including beautification of the campus.
- Responsible to look after the functions of Wardens and Matrons who look after the hostels.
- Looks after the activities of Outsourced Contract Security Personnel deputed in the campus, including their attendance, performance, lapses and report to the Society.
- Takes effective measures for the security of the campus as well as the security of the boarders of the hostels.
- Takes up with the Vendors for serving quality foods to the hostels.
- Looks after hygiene and cleanliness of the kitchen, food preparation area and washing bays in the hostels.
- Controls vehicle movement in the campus to avoid any untoward incident.
- Deals with the Administrative Authorities like Police, SDM's office, etc. in case any disciplinary issue arises in the camp.
- Be prepared to manage any emergency/crisis/disaster in the college campus.
- Take care of fire-fighting equipment so that they remain functional.
- In-charge of maintaining all data related to hostel/security/campus maintenance as per AICTE norms.
- Report to the General Secretary on all issues for smooth functioning of the college at odd hours.
- Be prepared to face any eventuality in the campus.

Hostel Wardens/Matrons

- It is the duty of the Hostel Warden/Matron to look after following regular matters relating to hostel discipline.
- Food served at dining hall, quality of food cooked, quality of raw materials used, and adherence to menu chart.
- Hygiene and cleanliness of kitchen and Dining Hall.
- Looks after amenities of the students in the hostel.
- Looks after maintenance job as per the complaint received from the students.
- Maintains record of attendance and leave of temporary absence or weekend leaves of inmates (abiding by Hostel Rules).
- Maintains hostel discipline and take appropriate, prompt and corrective actions to prevent any act of indiscipline (including ragging), as and when arises.
- Attends the immediate complains of the students and arrange for redressal and corrective action and if need be to take up with the higher authorities.
- Makes arrangement of attending to medical needs of the inmates and if need be to arrange for hospitalization in close coordination with Hostel Superintendents.
- Informs the parents/guardians periodically about the conduct of the student in the hostel.

Hostel Superintendent

- It is the duty of Hostel Superintendents to visit the hostels regularly and oversee the activities of the Hostel Wardens/Matrons and assist them whenever necessary in close coordination with Campus Administrator.
- Guides the Wardens/Matrons in all hostel related matters.
- Counsels the students along with Wardens/Matrons whenever any problem arises regarding hostel related issues and sorts it out amicably.
- Request the Registrar/Campus Administrator to convene the meetings related to Hostel and discipline and take action in consultation with the higher authorities.

Chief Finance Officer of the Institute:

- Senior Manager (Finance) and the staffs of Finance & Accounts section will report to the Treasurer and the General Secretary of the Society.
- Senior Manager (Finance) deals with all the financial matters related to the Institute.
- Prepares and reports financial statements, establish internal procedures and controls, and evaluate business performance and segment productivity.
- Looks after the Cash Inflow and Outflow.
- Maintains all financial records for smooth functioning and as per regulations of the Institution shall submit it regularly to General Secretary/Treasurer of the Society.
- Responsible for fees collections, reconciliation, monitoring of due fees in close coordination with Registrar's Office and all departments.
- Looks after all statutory payments viz. Income Tax, Professional Tax, Provident Fund, ESI, Group Gratuity, Mediclaim, Insurances, etc.
- Prepares budgets based on departmental budgets.
- Takes care of salary disbursement to all group colleges.
- Assists the Audit team for Financial Audit.
- Keep liaison with the Bank(s), where the accounts of the college is maintained.
- Submits the Annual Report of the Society to Statutory Authorities.
- Any other function assigned by the Society.

Senior Manager (CA & E)

- Responsible for making sure that the building and its services meet the needs of the people of the college.
- Accountable for services such as cleaning, security and parking, to make sure the surrounding environment is in a suitable condition to work.
- To oversee the installation, repair and upkeep of the college property, including machines, mechanical systems, buildings and other structures.
- Maintaining a safe environment with proper lighting, signage, and disability access.
- Drafting and updating emergency plans and evacuation procedures.
- Overseeing security, fire prevention, and other safety systems.

- Responsibilities to collect rent from the officials of the college;
- Oversee the Maintenance and Repair jobs of the apartments inside the college premises as well as hostels;
- Carrying out inspections of the facilities to identify and resolve issues.
- Checking electrical and hydraulic systems of buildings to ensure functionality

Computer Centre Staff:

System Administrator

- The System Administrator is responsible for development and maintenance of the entire computer network of the Institute.
- Provides necessary software support to the students and faculty in project and research work and generate various MIS, as required.
- Possesses hands-on experience and relevant skills for supervision and maintenance of the computer network of the Institute.

Office Assistant of the Departments/Sections of the Institute:

- Senior Executive/Sr. Office Assistant/Office Assistant is responsible for regular activities of particular department/section.
- Keeps all the records related to the college under the directives of the Head of the Departments/Registrar.
- Always keeps strict secrecy and confidentiality in maintaining the records.
- He/she, under no circumstances, handovers the records to anybody, unless and until he gets the permission from the Registrar/Head of the Departments.
- Executes any assignments time to time given by the college authority.

9.6.2 Transparency (5)

Institute Marks : 5.00

Transparency

Transparency is a cornerstone of effective institutional governance and accountability. At our Institute, significant efforts are made to ensure that all stakeholders—students, faculty, staff, parents, and the general public—have access to clear and comprehensive information regarding the institution's policies, decision-making processes, and governance structures.

Information Dissemination:

The Institute maintains an updated and accessible website that serves as the primary platform for disseminating information.

The following key documents and details are regularly published:

Policies and Rules: Comprehensive documents outlining academic, administrative, financial, and ethical policies are available online. This includes the Code of Conduct for faculty and students, anti-ragging policies, grievance redressal mechanisms, and academic regulations.

Processes: Standard Operating Procedures (SOPs) for admissions, examinations, evaluation, internships, placements, and research activities are documented and accessible.

Delegation of Financial Powers: Clear details of delegated financial authority across various levels of administration are published, ensuring fiscal responsibility and transparency.

Faculty and Staff Information: Updated profiles of faculty members, including their qualifications, areas of expertise, research interests, and publications, are listed. Administrative staff structures and responsibilities are also available.

Student Information: Enrolment statistics, academic calendars, examination schedules, results, and scholarship details are regularly updated.

Academic and Administrative Transparency:

- All the faculties are the members in the respective Department Academic Committee (DAC).
- All the issues are discussed in the meetings of the Heads of Departments, which are held periodically informed to all the staff.
- All the important pieces of information are sent to the faculty, staff and students.
- There are Notice Boards in all the Blocks through which information is made available to the staff and students and very significant circulars are sent to the classrooms.
- Academic Results and all the important items are placed on the College website.
- The Mandatory Disclosure is presented on the website including the academic regulations and syllabus.
- All the information about the college is made crystal clear through the college web- site. Every parent can get information about his/her ward's attendance and performance.

The College has arranged web mail facility to the entire faculty with individual Ids for faster and more accurate information. Uploading college information related to extension of approval by the AICTE.

Governance and Decision-Making Transparency:

To promote participatory governance, the Institute ensures that:

- Agendas and Minutes of meetings of the Governing Body, Academic Council are uploaded on a regular basis on the official website.
- Important decisions and policy updates resulting from these meetings are also summarized for broader public understanding.
- Stakeholder Awareness:
- Orientation sessions and interaction sessions at the department levels are conducted to educate students and faculty about institutional rules and updates. Feedback is collected through structured mechanisms such as student satisfaction surveys, faculty feedback, alumni feedback and employer feedback.
- Based on recent internal audits and stakeholder feedback, there is a high degree of awareness regarding institutional policies among faculty and administrative staff. Among students, awareness levels are moderate but improving, supported by digital notices and interactive sessions organized by various departments and student bodies.

The Information on Policies are made available in Institute's website i.e. www.bcrec.ac.in under the sub-heads as pointed below:

- Different committees are available in administration part under about in the website.
- Service Book, rule & other details are available in the official document part under about in the website.
- IQAC section of the website contains detailed report about the AQAR, SSR etc.
- Different other information regarding processes are available in the disclosure section of the website.
- Delegation of financial powers
- Institution should explicitly mention financial powers delegated to the Principal, Heads of Departments and relevant in-charges. Demonstrate the utilization of financial powers for each year of the assessment years.

Delegation of financial power to Principal:

So long the Principal was vested with financial power of emergency purchase upto Rs 10,000/- (Ten thousand) relating to revenue items for urgent academic necessity without calling for any tender after taking advance from the corporate office based on the written proposal on a note sheet to be adjusted at the earliest with due received.

The above financial power of the Principal is now increased to cover up to Rs 20,000/- (Twenty thousand) with a maximum limit for a financial year amounting to Rs 1,00,000/- (One lakh).

Delegation of financial power to Heads of Department:

Similarly financial power of the HOD of any department for emergency purchase of revenue items for urgent academic necessity of the department is now increased to Rs 10,000/- (Ten thousand) from the earlier amount of Rs 5,000/- (Five thousand). The maximum amount of such expenditure will, however, be limited to Rs 50,000/- (Fifty thousand) for a financial year.

Table 9.6.2: Roles and Responsibilities of various Committees of the Institute

Name of the Committee	Name of the Members responsible / accountable to implement the jobs entrusted with	Roles and Responsibilities of the Committees
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1. Internal Quality Assurance Cell (IQAC)	• Prof. (Dr.) Sanjay S. Pawar, Principal, BCREC , Chairperson • Prof. (Dr.) K. M. Hossain, Vice-Principal, BCREC , Vice-Chairperson • Prof (Dr.) Sanjay Sengupta, HOD, Civil Engineering, Coordinator • Prof. (Dr.) Arindam Mondal, Registrar, Representative of Management • Shri Rajesh Chatterjee, General Manager (Admn.), Member • Shri Ravi Sharma, Chief Financial Officer (CFO), Member • Dr. Jayanta Pal, Associate Prof., Basic Science & Humanities, Member • Dr. Pabitra Kumar Dey, HOD (MCA), Member • Dr. Anirban Bose, Asstt. Professor, CSE, Member • Dr. Arijit Kumar Banerji, Asstt. Professor, CE, Member • Dr. Anandapova Majumder, Asstt. Professor, CSE, Member • Dr. Tribeni Prasad Banerjee, Asso. Professor, ECE, Member • Dr. Ritu Rani De(Maity), Asstt. Professor, EE, Member • Shri Saindhab Chattaraj, Asstt. Professor, CSE, Member • Smt. Mou Das Mahapatra, Asstt. Professor, EE, BCREC & Member of Alumni Association, Member • Mr. Deepraj Mondal, Alumni, BCREC, Member • Mr. Aritra Mondal, Alumni, BCREC, Member • Mr. Sabyasachi Gupta, GE Power India Ltd., Durgapur , Member • Mr. Partha Sinha, Asst. Manager-HR&A, Durgapur Projects Ltd. , Member • Prof. (Dr.) Saikat Maitra, Chief Advisor, BCREC Society, Invited Member • HoDs (Invited Members) (case to case basis), Invited Member	• IQAC will perform annual academic audit of the academic departments. • It will arrange teaching requirements for successful completion of academic programs of the college and supervise the same periodically. • The cell will promote research culture in the college through collaboration among faculty. • It will encourage collaboration with other academic institutes. • IQAC will facilitate and supervise the MAR/MOOCs activities of the students. • It will recommend the Management, through Principal and Vice Principal, for encouraging students with awards, stipends, scholarships, medals and prizes and so on. • IQAC will arrange for feedback response from students, parents and other stake holders on quality-related institutional processes. • The committee will analyse the feedback and submit a report to the Principal and Vice Principal with plans for the quality assurance. • It would assist the Vice Principal to implement and monitor quality assurance plans approved by the Principal and develop suitable mechanisms for staff motivation through awards for excellence in teaching. • In consultation with Vice Principal, it would also organize or Suggest training / seminars / workshops / technical FDPs for the over all holistic growth of education. • IQAC will support Vice Principal to arrange FDPs for educational technology (ICT), motivational talks and communication skills for the staff. • It will maintain the documentation of the various programmes / activities leading to quality improvement. • It will develop and maintain institutional databases in consultation with Registrar, Head (Exam Cell), HODs for the purpose of maintaining / enhancing the institutional quality. • It will formulate and run a forum at institution / departmental level for providing coaching in GATE and other such examinations like CAT, TOEFL, GRE and IELTS. • The committee will prepare the yearly Annual Quality Assurance Report (AQAR) as per prescribed format by NAAC and submit it up on approval of the Principal. • The Committee will look after all the Accreditation / ranking activities of the college –NBA, NAAC and NIRF. • In consultation with Dean (SW) and Dean (Alumni), IQAC will facilitate and supervise the activities of the Student Council, for the overall growth of academics of the college.
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(2) Anti-Ragging Committee	• Prof. (Dr.) Sanjay S. Pawar, Principal, BCREC, Chairman • Prof. (Dr.) K.M Hossain, Vice Principal, BCREC, Member • Prof. (Dr.) Arindam Mondal, Registrar, Member • Prof. Saindhab Chattaraj, Nodal Head- ARC, Convenor • Prof. Sabbir Reza Tarafdar, AP, CSE, Jt. Convenor • Prof. (Dr.) Chandan Chattoraj, HOD, ME, Member • Prof. (Dr.) Raj Kumar Samanta, HOD, CSD, Member • Prof. (Dr.) Mrinmoy Chakraborty, HOD, ECE, Member • Prof. (Dr.) Sanjay Sengupta, HOD, CE, Member • Prof. (Dr.) Suman Bhattacharjee, HOD, IT, Member • Prof. (Dr.) Arindam Ghosh, HOD, CSE, Member • Prof. (Dr.) Gour Sundar Mitra Thakur, HOD, AIML & Cyber Security Incharge, Member • Prof. (Dr.) Chandan Bandyopadhyay, HOD, DS, Member • Prof. (Dr.) Shibendu Mahata, HOD, EE, Member • Prof. (Dr.) Pabitra Kumar Dey, HOD, MCA, Member • Prof. (Dr.) Somroop Siddhanta, HOD, FMS, Member • Prof. Keka Hajra, ECE (Hostel Superintendent), Member • Prof. Biswajit Mondal, CSE (Hostel Superintendent), Member • Prof. Amit Kotal, CE (Hostel Superintendent), Member • Prof. (Dr.) Deepa Vishwanath Naik, CSE (Hostel Superintendent) -, Member • Sri Goutam Chakrovorty, Campus Administrator, Member • Guardian Representative (Two), Member • Representative of SDM Office, SDM or His/ Her Representative Member • Police Commissionerate (ASN-DGP), Member • Local P. S. Officer-In-Charge, NTPS, MAMC Durgapur or His/ Her representative	◦ To ensure compliance with the provision of UGC regulation 2009 at the institute level. ◦ To monitor and oversee the performance of the anti-ragging squad in prevention of ragging in the institution. ◦ To adopt various measures for prohibition of ragging in the surrounding areas of the Institute
(3) Grievance Redressal Cell (Faculty)	• Prof. (Dr.) Sanjay S. Pawar, Principal, Chairman • Prof.(Dr.) K. M. Hossain, Vice-Principal, Member • Prof.(Dr.) G. S. Panda, Registrar, Member • Prof. (Dr.) Sanjay Sengupta, HOD, CE, Member • Prof. (Dr.) Arunava Mookherjee, HOD, FMS, Member • Dr. Tilendra Shishir Sinha, Director, School of Computer Science and engineering, MAKAUT, WB, Member • Mr. Anil Prasad, Asst. Controller of Examination, MAKAUT, WB, Member • Prof. (Dr.) Keshab Bhattacharyya, University OMBUDSMAN, Member	• Grievances Redressal committee receives and redresses grievances reported online or offline for the issues related to faculty and staff members regarding non-payment of salaries, PF, gratuity, return of original documents (certificates etc.). • Academic issues: pertaining to teaching learning activities, Student-teacher, student-student, student-parent, teacher-teacher relationship pertaining to harassment etc. • Grievance related to transport facilities. • Grievances related to delay in issuance of records and documents. • The committee will also redress and send the compliance report for the grievances of staffs reported to Govt. agencies like AICTE, National Commission for Women (NCW), National Human Rights Commission (NHRC) etc.

(4) Internal Complaint Committee (ICC)	• Dr. Arunava Mookherjee, Professor (FMS), Presiding Officer • Dr. Sandip Mukherjee, Associate Professor (FMS), Member - Legal Expert • Sr. Dola Sinha, Associate Professor (EE), Member • Mrs. Susmita Maitra, PS to Principal, Member • Mrs. Anindita Senguta, Technical Assistant, Member • Ms. Indrakshree Sen, Psychological Counsellor, Member • 3 Students (In case of a matter that involves students), Students, Student Representative • Mr. Jayanta Biswas, Jt. Secretary, Swami Vivekananda Bani Prachar Samity, External Member - NGO Representative • Mrs. Sukarna Dey Mondal, Assistant Professor (BSH), Member Secretary	• Committee will examine complaints of sexual harassment or sexual discrimination pertaining to the female staff members and the female students and submits its findings to the Principal for further actions. • Preventive and remedial measures to be discussed in committee meetings and to be implemented by the committee. • The committee will organize seminars / webinars by the personnel from National Commission for Women (NCW) to create awareness on women issues and generate an environment in the campus where women feel confident about their safety.
(5) Grievance Redressal Cell (Students)	• Prof. (Dr.) K. M. Hossain, Vice-Principal, BCREC , – Chairman • Prof. (Dr.) G. S. Panda, Registrar, – Member Secretary • Dr. Chandan Bandopadhyay, CSE – Member • Dr. Poulumi Mukherjee Tewari, HOD, CSE(CSD) – Member • Mr. Pranoy Roy – Member • Mr. Biswajit Mondal – SC/ST/OBC Member • Somya Singh (University Roll No. 12000323092) – Student Member	Grievance Redressal committee receives and redresses grievances reported online or offline for the following issues: • Academic issues: pertaining to teaching learning activities, Student-teacher, student-student, student-parent, teacher-teacher relationship pertaining to harassment etc. • Internal evaluation and in assessment marking in consultation with Heads of the Academic Departments. • Complaint related to library and IT services. • Grievances related to hostel, food, water, electricity etc. • Grievance related to transport facilities. • Grievances related to sports, cultural and selection process etc. • Grievances related to university examination in consultation with Head, Exam Cell. • Grievances related to delay in issuance of records and documents. • The committee will also redress and send the compliance report for the grievances of students reported to Govt. agencies like AICTE, National Commission for Women (NCW), National Human Rights Commission (NHRC) etc.
(6) Students Disciplinary Committee	• Prof. (Dr.) Sanjay S. Pawar, Principal, Chairman • Prof.(Dr.) K. M. Hossain, Vice-Principal, Member • Prof.(Dr.) G. S. Panda, Registrar, Convenor • Mr. Saindhab Chattaraj, AP, CSE, Member • Mr. Amit Kotal, AP, CE & Hostel Super, Member • Mr. Biswajit Mondal, AP, CSE, Member • Mrs. Keka Hazra, AP, ECE & Hostel Super, Member • Mr. Goutam Chakraborty, Campus Administrator, Member • MD. Keramot Hossain Mondal, AP, IT, Member	• The committee will look after the discipline in the classroom, campus as well as in the college premises. • In the event of any indiscipline activities, the committee will ensure a fair, impartial and consistent enquiry and recommend disciplinary action to the college authority. • A record is to be maintained by the committee for indiscipline activities done by the students and action taken. • To maintain the rules and regulations of the college given in the information brochure, which are given to the students during admission. • The committee will take inputs as and when required from the Grievance Redressal Cell, Anti Ragging Committee, Sexual harassment committee, Hostel Council and initiate necessary action.

9.7 Budget Allocation, Utilization, and Public Accounting at Institute Level (12)

Total Income at Institute level: For CFY,CFYm1,CFYm2 & CFYm3

CFY : (Current Financial Year),

CFYm1 : (Current Financial Year minus 1),

CFYm2 : (Current Financial Year minus 2) and

CFYm3 : (Current Financial Year minus 3)

Table 1 - CFY 2025-26

Total Income 448814049				Actual expenditure(till...):	Total No. Of Students	Expenditure per student
Fee	Govt.	Grants	Other sources(specify)			
401382902	247618	0	47183529	38,11,51,568	3129	121812.58

Table 2 - CFYm1 2024-25

Total Income 395078345				Actual expenditure(till...):	Total No. Of Students	Expenditure per student
Fee	Govt.	Grants	Other sources(specify)			
361143377	6333351	0	27601617	39,69,10,361.0	3116	127378.16

Table 3 - CFYm2 2023-24

Total Income 329328218				Actual expenditure(till...):	Total No. Of Students	Expenditure per student
Fee	Govt.	Grants	Other sources(specify)			
306184441	1127790	0	22015987	36,61,83,721.0	2986	122633.53

Table 4 - CFYm3 2022-23

Total Income 307222110				Actual expenditure(till...):	Total No. Of Students	Expenditure per student
Fee	Govt.	Grants	Other sources(specify)			
281729293	3356569	604597	21531651	32,73,85,758.0	2805	116715.07

Items	Budgeted in 2025-26	Actual Expenses in 2025-26 till	Budgeted in 2024-25	Actual Expenses in 2024-25 till	Budgeted in 2023-24	Actual Expenses in 2023-24 till	Budgeted in 2022-23	Actual Expenses in 2022-23 till
Infrastructure Built-Up	300000C	2038467	217360C	2319434	130000C	2818941	650000C	8764935
Library	227550C	197252E	339700C	2116995	267000C	2606893	315000C	2221767
Laboratory equipment	325500C	340812E	166100C	1678273	123250C	1194513	1100000	1460043
Teaching and non-teaching sta	244250C	2448007	232100C	2430707	223190C	2224735	208000C	2114908
Outreach Programs	200000	1615	50000	62458	20000	542	50000	10866
R&D	305000	143211	177000C	593088	1160000	723286	615000C	1881426
Training, Placement and Indust	177700C	1600652	197000C	1151640	152000C	104950E	125000C	1082973
SDGs	110000	74134	75000	96170	0	0	0	0
Entrepreneurship	100000	0	25000	7448	20000	9455	0	0
Others, specify	108290C	108765E	1115080	109834E	882760C	9918592	846705C	8733255
Total	390562500	381151568	389241000	396910361	342181000	366183721	320770500	327385758

9.8 Program Specific Budget Allocation, Utilization (8)

Total Income at Institute level: For CFY,CFYm1,CFYm2 & CFYm3

CFY: (Current Financial Year),

CFYm1 : (Current Financial Year minus 1),

CFYm2 : (Current Financial Year minus 2) and

CFYm3 : (Current Financial Year minus 3)

Table 1 :: CFY 2025-26

Total Budget 714000		Actual expenditure (till...): 528218		Total No. Of Students 649
Demanded	Actual Allocated	Actual Expenditure	% Spent	Expenditure per student
19,52,000	7,14,000	5,28,218	73.98	813.90

Table 2 :: CFYm1 2024-25

Total Budget 1607000		Actual expenditure (till...): 1380010		Total No. Of Students 622
Demanded	Actual Allocated	Actual Expenditure	% Spent	Expenditure per student
20,50,000	16,07,000	13,80,010	85.87	2218.67

Table 3 :: CFYm2 2023-24

Total Budget 3484000		Actual expenditure (till...): 2729527		Total No. Of Students 557
Demanded	Actual Allocated	Actual Expenditure	% Spent	Expenditure per student
36,70,000	34,84,000	27,29,527	78.34	4900.41

Table 4 :: CFYm3 2022-23

Total Budget 7724000		Actual expenditure (till...): 8205825		Total No. Of Students 552
Demanded	Actual Allocated	Actual Expenditure	% Spent	Expenditure per student
82,00,000	77,24,000	82,05,825	106.24	14865.62

Items	Budgeted in 2025-26	Actual Expenses in 2025-26 till	Budgeted in 2024-25	Actual Expenses in 2024-25 till	Budgeted in 2023-24	Actual Expenses in 2023-24 till	Budgeted in 2022-23	Actual Expenses in 2022-23 till
Laboratory equipment	250000	247108	1010000	954464	2850000	2276161	6650000	7250126
Software	0	0	15000	0	70000	0	250000	265250
SDGs	10000	8680	0	0	0	0	0	0
Support for faculty developmen	50000	32789	50000	55660	50000	39289	100000	101630
R & D	50000	0	150000	54700	100000	92012	300000	192055
Industrial Training, Industry exp	40000	0	50000	10200	50000	5749	50000	35780
Miscellaneous Expenses*	314000	239641	332000	304986	364000	316316	374000	360984
Total	714000	528218	1607000	1380010	3484000	2729527	7724000	8205825

9.9 Quality of Learning Resources (Hard/Soft) (5)

Staff Members:

- Dr. Susanta Koley – Librarian, B. Com (Hons.), MLIS (Gold Medal), PhD
- Smt. Aabira Ray – Dy. Librarian, MA (NET Qualified), MLIS
- Sri Tapas Kr. Ghosh – Asst. Librarian, B.Sc (Hons in Eco), MA (Eco), MLIS
- Smt. Soma Ghosal – Jr. Librarian, MA, MLIS
- Sri Judhajit Jash– Jr. Librarian, M.Com, MLIS
- Sri AshisKarmakar – Jr. Librarian, M.Com, MBA (HR), MLIS
- Sri Rana Mukhopadhyay – Jr. Librarian, BA, BLISc, CITA
- Sri Kunal Chakraborty – Jr. Librarian, MA, MLIS
- Smt. Indrani Banerjee - Library Asst., MA, MLIS
- Sri Dharmadas Konar – Lib. Attendant

Computerized Library, Barcode operation, OPAC (Online Public Access Catalogue), Carpet Area of Library: 1150 m², Reading Space: 450 m² and Seating capacity: 105.

Dr. B. C. Roy Engineering College, Durgapur, has a well-equipped composite library system with the following facilities:

Library facilities:

- Central Library is housed in a sprawling three-story separate building (1300 sq. m., Carpet area: 1122.45 sq. m.)
- Library Hours: 8:00 AM – 8:00 PM
- Rich collection of Books and Journals.
- Addition of a large number of books during each semester.
- A substantial collection of CD-ROMs / DVDs relating to books, etc.
- It is a Local Chapter of NPTEL (National Programme on Technology Enhanced Learning).
- It is an Institutional Member of the National Digital Library (MHRD) and was designed by IIT Kharagpur.
- It is an Institutional member of DELNET (Developing Library Network).

Subscription:

A good number of current journals, both Indian and international. Indian ones are available mostly in print version, with some in combo version (print + online version combined). International ones are mostly in online versions accessible through the following full-text databases:

- IEEE(ASPP):** 251 journals/transactions with back files access since 1998 in the fields of Computer Science & Engineering, Electrical, Electronics + Telecom & related disciplines.URL: <http://ieeexplore.ieee.org>
- Springer Nature** – 530 journals with back file access in the fields of engineering, computer science and management.

To facilitate campus-wide usage, including hostels, these databases are made accessible on internet-enabled PCs/ Laptops under the two static IP addresses of the College, i.e., a) Ishaan: 103.93.248.18 and b) Microtalk: 103.94.87.18

- **DELNET (Developing Library Network):**

A very important library network which provides online access, inter alia, to a selected list of online full-text foreign journals, E-Books, full-text US patent literature, union catalogue of books, journals, theses, dissertations, etc. Its Document Delivery Service (DDS), which provides photocopies of required journal articles, chapters of books, etc., is extremely useful.

All these online databases provide access to a wealth of information to keep a user abreast of the current wave front of knowledge as well as for retrospective literature search.

- **Electronic Library:**

An electronic library is there with the facility to access the online and offline databases, NPTEL/MOOCs Courses (CDs /DVDs, etc.), and to download the selected materials.

- **Book Bank:**

Besides the Central Library, students can borrow books (one book for each subject in the syllabus for each individual student) from the Book Bank for retention for the whole semester (i.e., six months).

- **Departmental Libraries:**

Libraries attached to teaching departments serve to meet the requirements for quick reference to books by the faculty members and the students.

- **Availability of a host of Reference Books:**

Encyclopaedia Britannica (31 vols), McGraw-Hill Encyclopaedia of Science & Technology (20 vols), World of Science (20 vols), Modern Power Station Practice (12 vols), Instrument Engineers Handbook (3 vols), Welding Handbook (4 vols), ASM Handbook (relevant volumes of the 27 volume set), Industrial Electronics Handbook (5 vols), VLSI Handbook, etc. Availability of special collection of books, journals, required for the competitive examinations (GATE, GRE, CAT, MAT, XAT, GMAT, SAT, TOEFL, etc.) to help the prospective aspirants hone their skills to face these examinations confidently.

- **Accessibility to the book collection** of the library by author, title, subject, etc., through OPAC (Online Public Access Catalogue) based on KOHA ILMs on Cloud on several computer terminals spread over the college buildings.
- **Holdings of the library books are computerized and barcoded.**
- **Uninterrupted internet connectivity.**
- **Wi-Fi Facility** is available for accessing library resources.
- **Users can search Library OPAC, e-resources, previous year question papers, etc. using QR code.**
- **Document Delivery Service:** Arranging photocopies of articles from old learned periodicals to faculty members for R&D purposes. There is a provision for **reprographic** services.
- **CCTV System:** The security of the Central Library premises has been further strengthened through the installation of CCTV systems.
- **The Epilogue:** Provision of all these facilities taken together enables a discerning user to broaden and sharpen his/her knowledge base.
- **Computer Science & Engineering (CSE) Department Library:** Our departmental library provides a wide array of resources that cater to both foundational studies and advanced learning needs. It includes essential academic texts, professional exam preparation materials, and specialized resources for applied technical knowledge and research. General reference materials are also available to enhance language proficiency and support personal development in areas like leadership and analytical skills. This diverse collection empowers students to build a strong academic foundation, refine their practical skills, and develop competencies crucial for future professional success.
- **Total Library Holdings of Books (as on 31.03.2026):** A department-wise break-up of holdings is given in the table below.

Table No. 9.9a: Synopsis of Total Library Holdings of Books

Departments	Titles of books	Volumes of books
-------------	-----------------	------------------

CSE/IT/AI/ML/DS/CSD/CS	1348	17710
ECE	1376	15537
EE	783	9944
ME	900	10669
CE	457	5947
Mathematics	387	9378
Chemistry	127	2610
Physics	176	4685
Humanities	1083	2425
MCA	199	7172
MBA (FMS)	850	15137
Biology	07	419
MLT	01	09
SUB-TOTAL	7694	101642
GIFT/Specimen Copy	275	464
TOTAL	7969	102106

Table No. 9.9b: Break-Up of Holdings of Books in Different Constituent Libraries

Books	No of volumes
Central Library	29349
Book Bank (includes MCA/MBA(FMS) Book Bank books)	66613
Departmental Libraries	978
MCA (Central library)	1564
FMS (Departmental Library)	3138
GIFT/Specimen Copy	464
Total	102106

- Current Journals/Magazines:

Table No. 9.9c: Accessibility of various types of Journals in different modes

Full text online	No of Titles
IEEE-ASPP Through online databases	251
Springer Nature	530
Sage India	10
Open source through DELNET	1748
Print journals (Subscribed)	20
Print magazines (Subscribed)	20
Bound volumes of journals	482

- CD ROMs/DVDs: No of discs: 4121

Table No. 9.9d: Total no of books, Bound vols of Journals & CD-ROMs/ DVDs

Total items/ holdings	Volumes of documents
Books	102106
CD-ROMs/DVDs	4121
Bound volumes of journals	482
Grand Total	106709

Table No. 9.9e: Status of Digital Library Infrastructure and Access Facilities

Infrastructure	Availability
Digital Library services	Yes
Availability of Digital Library contents	Yes
Number of Courses	16 Nos. (10 UG B.Tech, 4 PG M.Tech, MBA & MCA)
Number of e-resources (NPTEL)	600+
Number of e-resources (NDL)(e-Books, Theses, Video lectures, Journals)	Institutional Member of NDL
Availability of intranet/Internet	Yes
Availability of Exclusive Space/Room	Yes

Number of users per day	158 (avr.)
The Digital Library is provided in the Central Library, where students can access all kinds of E-journals.	
Students can access eBooks/journals using the internet in the Library.	
The Ground Floor section of the Library is open up to 8:00 PM for the reading room facility. They are spacious, well-ventilated, have power sockets, lights & fans and Wi-Fi connectivity. The Digital Library, Reading Rooms are all located here. Ground floor houses have Reference & Periodical Section, Library Office, Photocopier Room, and E-Library.	
We have a Book Bank facility for each student of Dr B. C. Roy Engineering College, Durgapur. At the beginning of the semester, 6 to 9 books are issued to each student for the whole semester. These books are apart from regular textbooks issued by the Central Library.	
The library has resources for Undergraduate and postgraduate students.	
Textbooks, Journals, Bound Volumes, Conference Proceedings, General Reference Material, Technical Magazines, Newspapers and CDs-DVDs are available for reference.	
Video course online/HDD/CDs	• NPTEL-http://nptel.iitm.ac.in/ (http://nptel.iitm.ac.in/) • DELNET(Developing Library Network) • NDL(National Digital Library) by MHRD

9.10 E-Governance (5)

The Institute has established an e-governance enabled academic and administrative ecosystem supported by a campus-wide LAN, high-speed internet connectivity, cloud-hosted ERP services, ICT-enabled classrooms, online IT support, digital asset management, professional communication systems, and a structured surveillance and monitoring framework. The system supports academic planning, learning management, faculty and staff administration, student services, institutional reporting, IT maintenance, and professional activities of students and faculty members.

A running ERP system is implemented for academic management. The ERP has been internally developed and customized to suit institutional academic and administrative workflows. The system includes academic modules along with faculty/staff attendance, leave management, profiles, publications, roles and responsibilities, IT ticketing, technical assistant activity logs, job management, resource management, and asset management modules. The in-house nature of the ERP allows process-specific customization, quick modification, and sustainable maintenance without excessive dependence on external software vendors.

9.10.1. E-Governance Initiatives and Functional Coverage

The e-governance framework is designed around digital recording, monitoring, reporting, and decision support. The ERP and related IT systems reduce manual duplication, create institutional data traceability, and enable timely academic and administrative action.

9.10.1a: E-Governance Initiatives and Functional Coverage

Sl. No.	E-Governance Initiative	Functional Coverage	Stakeholders Benefitted	Present Status
1	Indigenous ERP Academic Module	Academic records, class management, routines, academic documents and role-based academic workflows.	Students, faculty, HoDs, academic administration	Implemented / running
2	Faculty and Staff Attendance with Facial Recognition	Digital attendance capture and monitoring of employee presence.	Faculty, staff, administration	Implemented
3	Leave Management Module	Online leave application, approval, record keeping and administrative monitoring.	Faculty, staff, approving authorities	Implemented
4	Profile, Publications and Roles & Responsibilities Modules	Faculty/staff profile maintenance, publication records and institutional responsibility mapping.	Faculty, departments, accreditation teams	Implemented
5	IT Ticketing System	Registration, tracking and resolution of IT issues.	Students, faculty, laboratories, administrative offices	Implemented
6	TA Activity Logs and Job Management	Digital monitoring of technical support activities and assigned maintenance work.	Technical assistants, HoDs, IT administration	Implemented
7	Resource and Asset Management	Database of IT and laboratory assets integrated into the ERP/ticketing system.	Departments, laboratories, administration	Implemented
8	Professional Email System	Institutional communication using G-Suite / Gmail based private email server.	Faculty, staff, institutional offices	Available
9	Institutional Website	Publication of institutional information, notices, approvals and stakeholder-facing information.	Students, parents, faculty, external agencies	Available

B. E-Governance Architecture

The e-governance architecture integrates cloud-hosted ERP modules, network backbone, academic services, IT support systems, digital learning resources, and monitoring infrastructure. The academic module functions as a central digital layer for academic management, while the campus-wide computing and network infrastructure supports accessibility across departments, laboratories, offices, classrooms and hostels.

E-Governance and IT Support Architecture

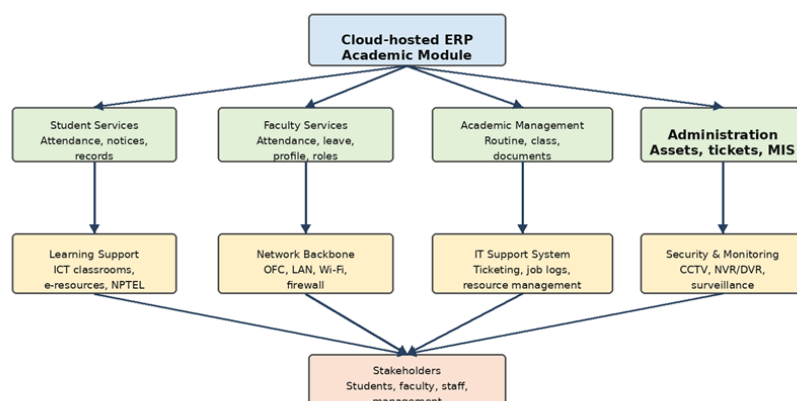


Fig 9.10.1: E-Governance and IT Support Architecture

C. Sustainable Practices in Academic and Learning Management

The ERP-based academic module supports sustainable academic management by reducing paper-based record keeping and enabling digital access to academic documents, routine/class management, institutional records, leave records, attendance data, technical support logs and asset records. The system promotes data continuity, faster retrieval, improved accountability and better internal monitoring.

9.10.1b: Sustainable Practices in Academic and Learning Management

Area	Sustainable E-Governance Practice	Academic / Administrative Benefit
Academic Management	Use of cloud-hosted ERP academic module for routine, class and academic document management.	Improves academic record consistency and reduces manual duplication.

Attendance and Leave	Digital attendance and leave workflows for faculty and staff.	Improves traceability and reduces paper processing.
Documentation	Storage of critical academic documents and employee records on secured cloud servers.	Supports accreditation, audit and administrative continuity.
IT Maintenance	Ticketing, job management and activity logs for issue tracking.	Improves response accountability and maintenance transparency.
Asset Management	Cloud-based tracking of laboratory and IT assets.	Supports preventive maintenance, stock verification and procurement planning.
Learning Support	ICT classrooms, online resources, NPTEL access and internet-enabled learning support.	Improves access to digital academic material and self-learning.
Communication	Institutional email and website for professional information flow.	Supports fast dissemination of academic and administrative information.

D. Campus-Wide Computing and Network Resources

The institution has a strong IT infrastructure consisting of a campus-wide LAN, OFC backbone, Wi-Fi access, managed switching, redundant leased line internet, hostel internet facilities, cloud server architecture, local departmental servers, ICT-enabled classrooms, surveillance systems and licensed/open-source software resources. The entire college operates through a common LAN using mixed Star and Tree topology, with OFC, CAT6 and CAT5 cabling used for end-to-end connectivity.

9.10.1c: Campus-Wide Computing and Network Resources

Parameter	Available Facility / Quantity
Campus LAN	Campus-wide LAN using mixed Star and Tree topology
Network Backbone	Optical Fibre Cable backbone connecting all buildings
Network Devices	Approximately 310 network devices including managed L2 switches, PoE switches and wireless controllers
Routers / Access Points	92
Switches	218
Internet Bandwidth	1 Gbps primary leased line + 100 Mbps secondary leased line; aggregated throughput up to 1100 Mbps
Firewall / UTM	Sophos Firewall and UTM with load balancing and automatic failover
Emergency Internet Backup	Third dedicated emergency connection maintained for critical redundancy
Wi-Fi Coverage	85% of built-up area
Hostel Internet	Separate leased line connection; OFC last-mile connectivity to individual hostel rooms with dedicated Wi-Fi router for occupied rooms
ICT Classrooms	31 classrooms equipped with ICT tools
Projectors	52
Video Conference Enabled Board / Discussion Rooms	3
Generator Backup	414 KVA
Online UPS	26 units of 6/10/20 KVA

E. Computing Resources and Software Availability

The available computing resources exceed the minimum requirement indicated for the institution. The college maintains computers for students, library use, administration, language laboratory, academic use and high-end computing/workstation requirements. Legal system software, legal application software and open-source software are available to support academic and professional activities.

9.10.1d: Computing Resources (AICTE Requirement and Availability)

Particulars	AICTE Requirement	Available
No. of PCs/Laptops to student ratio	546 Nos.	1571 Nos.
No. of Legal System Software	3	11
No. of Legal Application Software	20	50
LAN and Internet	All	All
Mail Server and Client	Desired	Available
Internet Bandwidth	1000 Mbps	1100 Mbps
Black Printers	28	79
Colour Printers	-	3

9.10.1e: Computing/IT Resources (Quantity / Status)

Computing / IT Resource	Quantity / Status
Total Computers	1571

Computers exclusively available to students	1312
Computers for other academic purposes	140
Computers available in library	14 office computers and 30 student computers
Computers available in administrative office	45
Computers in Language Lab	30
Total Laptops	24
Servers	3
High-end Workstations	30
Printers	82
CCTV Cameras	235
Scanners	14
Licensed Application Software	50
Licensed System Software	11
Open Source Software	10
Computers purchased in last three years	390

9.10.2: Internet Connectivity, Cloud Integration and Accessibility

The internet architecture is designed for high availability. The primary leased line is a 1 Gbps OFC connection, supported by a 100 Mbps secondary OFC leased line. Both connections are managed through Sophos Firewall and UTM, enabling load balancing, aggregation and automatic failover. A third emergency connection is maintained for critical redundancy.

The ERP server is hosted on cloud infrastructure, enabling access to administrative, financial and academic management tools. A separate secured cloud server hosts the indigenous ERP for critical academic documents and employee records. Departments also maintain local servers for research and administrative work. Hostel internet is provided through a separate leased line and room-level OFC last-mile connectivity, with dedicated Wi-Fi routers in occupied rooms. This arrangement supports online learning, project work, research activity, placement preparation and regular academic work beyond classroom hours.

9.10.2a: Support for Academic and Professional Activities

Stakeholder	Support Provided through E-Governance / IT Infrastructure	Resulting Academic / Professional Utility
Students	Campus internet, hostel internet, ICT classrooms, laboratory computers, language lab, ERP academic services, digital notices and learning resources.	Supports self-learning, assignments, coding practice, online courses, project work and placement preparation.
Faculty Members	ERP access, institutional email, profile/publication modules, ICT tools, internet access, departmental servers and IT ticketing.	Supports teaching, documentation, research, publication records, classroom delivery and academic administration.
Technical Staff	TA activity logs, job management, resource management, ticketing system and knowledge transfer documentation.	Supports structured lab maintenance, IT response, issue tracking and accountability.
Administrative Staff	ERP modules, staff records, leave management, asset management, email and reporting systems.	Supports record maintenance, internal communication and institutional reporting.
Management / HoDs	Dashboards, digital records, asset database, attendance records and academic documents.	Supports monitoring, decision making, audit readiness and planning.

H. Surveillance, Security and Academic Monitoring Support

The college has deployed a large-scale surveillance and vigilance system with more than 235 cameras across the campuses. The system includes PTZ cameras, high-resolution cameras, classroom cameras, NVR/DVR based recording, and LED display-based live monitoring. Classroom surveillance includes cameras connected with the MAKAUT examination system and 4K cameras with audio capability for monitoring classroom interaction, attendance discipline and teaching methodology. This infrastructure supports safety, examination monitoring, campus discipline and academic process observation.

9.10.2b: Security / Monitoring Component

Security / Monitoring Component	Available Facility	Purpose
CCTV Coverage	235 cameras across campuses	Campus vigilance and safety monitoring
Classroom Examination Cameras	32 CCTV cameras connected to MAKAUT examination system	Examination compliance and monitoring
Modern Classroom Cameras	Approximately 60 4K cameras with audio capabilities	Academic interaction, attendance and teaching process monitoring
PTZ / High-resolution Cameras	Installed at strategic and external locations	Wide-area surveillance and monitoring

NVR / DVR / LED Displays	Live feed monitoring and recording	Real-time institutional vigilance
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I. Accessibility and Availability

The e-governance and computing facilities are accessible to stakeholders through campus LAN, Wi-Fi, hostels, computer laboratories, library systems, ICT-enabled classrooms, departmental servers, and cloud-hosted ERP services. Internet-enabled PCs and laptops across the campus support the use of academic databases, learning materials, software platforms, project development and institutional applications. The hostel internet system extends academic access beyond regular college hours.

9.10.2c: E-Facilities Available Departments Laboratories, Classrooms etc.

Access Location / Mode	Facilities Available	Users
Departments and Laboratories	LAN, internet, laboratory computers, local servers, ERP and licensed/open-source software	Students, faculty, technical staff
Classrooms	ICT tools, projectors, camera systems and network support	Students and faculty
Library	Computers, internet, e-resources and institutional digital access	Students and faculty
Hostels	Separate leased line, OFC last-mile connectivity and room-level Wi-Fi routers	Resident students
Cloud Access	ERP and secured institutional records	Authorized faculty, staff and administrators
Administrative Offices	ERP, email, computing resources and reporting tools	Administrative staff and authorities

J. Effectiveness of E-Governance Initiatives

The implemented e-governance system has improved academic record management, online workflow handling, institutional reporting, IT service response, communication speed, computing access and infrastructure monitoring. The indigenous ERP has created a sustainable academic management platform because the system can be modified internally according to departmental and institutional requirements. The IT ticketing and asset management modules have improved traceability of complaints, resources and maintenance activities.

9.10.2d: Effectiveness of E-Governance Initiatives

Area of Effectiveness	Observed / Expected Effect
Academic Management	Digital records, routines, academic documents and class information are managed in a structured manner.
Administrative Efficiency	Attendance, leave, profiles, roles and responsibilities are maintained through digital workflows.
IT Service Quality	Ticketing and job management improve complaint tracking and resolution accountability.
Asset Traceability	Cloud-based asset records support stock verification, maintenance planning and procurement decisions.
Learning Support	ICT classrooms, internet access and computing resources support digital learning and self-learning.
Student Support	Hostel internet and student-access computers improve access to academic work beyond scheduled classes.
Accreditation Readiness	ERP records, IT summaries, asset data and digital documentation support audit and accreditation requirements.

9.11 Initiatives and Implementation of Sustainable Development Goals (SDGs) (10)

Implementation of SDG specifically on green energy

The institution has actively implemented facilities for alternative energy sources and adopted comprehensive energy conservation measures. Our college has taken an important step toward clean energy and climate action by installing a 30 KW solar power system on the roof of Vidyasagar Bhawan in 2019. This solar plant, built by Aparajita Solar Ltd. of Kolkata for 13.14 lakh, helps reduce our carbon footprint and makes our campus more eco-friendly. The system includes 80 high-quality solar panels, an efficient inverter (98.2% efficiency), and all necessary safety equipment approved by Ministry of New and Renewable Energy. It connects to the local electricity grid through net metering, which means solar power can be used when available and send extra electricity back to the grid. The system is fully automated with online monitoring to track its performance. Our electrical staff regularly checks and maintains the solar plant to keep it working well. This project shows our commitment to sustainable energy and serves as an example of how colleges can help protect the environment while saving on electricity costs. Its part of our larger effort to create a greener campus for current and future students.



Fig. 9.11a: 30 KW solar power system

Implementation of SDG specifically on waste management.

Our college campus is located in a pollution-free area surrounded by nature, creating a healthy environment for everyone. The gardens and green spaces of the campus is maintained through a dedicated maintenance team.

The Institute also takes part in cleanliness drives like Swachh Bharat Abhiyan through seminars, webinars, and NSS programs to educate students and staff about environmental protection.

Our Institute performs–

1. Solid waste management
2. Liquid waste management
3. Biomedical waste management
4. E-waste management

The Institute has adopted effective waste management practices. Plastic use is reduced, and Styrofoam is completely banned. Waste is separated at the source using green bins for organic waste and blue bins for non-degradable waste. The collected waste is then handed over to the Durgapur Municipality. Plans to set up a composting plant for turning organic waste into manure are in place but were delayed due to the pandemic. Awareness programs are also conducted to teach students the importance of reducing, reusing, and proper waste disposal. In terms of liquid waste, wastewater is directed into a septic tank that is connected to the municipal sewage system. For e-waste, damaged electronic items are repaired and maintained when possible. Items that can no longer be used are sold to certified scrap dealers. Printer cartridges and UPS batteries are reused or exchanged. The Institute also plans to install a dedicated e-waste bin to promote safe and responsible disposal of electronic waste.



Fig. 9.11b: Solid waste collection

These green initiatives show our strong commitment to maintaining a clean, sustainable campus while contributing to important global sustainability goals. We continue to find new ways to protect our environment through practical solutions and student awareness programs.

Implementation of SDG specifically on preserving water

One of the key initiatives is the rainwater harvesting system, which includes rooftop rainwater collection. Rainwater from building rooftops is collected through a network of pipes and directed to storage tanks and recharge pits. This harvested rainwater is used to recharge an open well on the campus, helping to replenish the groundwater table and ensuring a sustainable supply of water throughout the year. Additionally, tanks and bunds have been constructed in strategic locations to capture surface runoff during the monsoon season, further supporting groundwater recharge.



Fig. 9.11c: Rainwater harvesting system.



Fig. 9.11d: Rainwater storage tanks.

Implementation of SDG specifically on net-zero campus.

Dr. B.C. Roy Engineering College is actively working towards becoming a net-zero campus by implementing sustainable practices that reduce carbon emissions and promote environmental responsibility. The campus has installed a 30 kWp rooftop solar power plant to harness renewable energy and reduce reliance on conventional electricity sources. Rainwater harvesting systems, including rooftop collection and open well recharge, are in place to conserve water, along with wastewater recycling for gardening purposes. Waste management practices emphasize segregation, reduction of plastic use, and responsible disposal of e-waste and organic matter. Green landscaping contributes to natural carbon absorption, while regular awareness programs educate the campus community about eco-friendly habits. Together, these initiatives align with the Sustainable Development Goals (SDGs) and demonstrate the college's commitment to achieving a cleaner, greener, and carbon-neutral future.

Green Campus Initiatives

Implementation of SDG specifically on green campus.

Dr. B.C. Roy Engineering College (BCREC) is committed to maintaining a green and sustainable campus through a range of environmentally friendly practices. The institution promotes eco-conscious behavior by restricting the entry of automobiles, encouraging the use of bicycles, and providing pedestrian-friendly pathways to reduce pollution and support a healthier lifestyle. A strict ban on plastic usage is enforced across the campus to minimize non-biodegradable waste. The campus is enriched with landscaped green spaces, trees, and plants, creating a serene and eco-friendly environment. Both students and staff actively participate in activities that promote environmental well-being, such as cleanliness drives under the Swachh Bharat Abhiyan, celebrations of World Environment Day, and regular tree plantation programs. The campus infrastructure is kept clean, visually appealing, and acoustically comfortable. BCREC's green initiatives are further reinforced through formal assessments such as Green Audit, Energy Audit, and Environment Audit. The institution has also received recognitions and awards for maintaining a clean and green campus. Additionally, it extends its environmental commitment beyond the campus through awareness and promotional activities in the broader community.



Fig. 9.11f: Green Campus Initiatives

Implementation of SDGs through R&D activities, entrepreneurial activities, outreach programs, etc.

As part of its commitment to sustainability, innovation, and community outreach, Dr. B.C. Roy Engineering College has organized a series of seminars and workshops aimed at promoting research and development (R&D), entrepreneurial activities, and environmental awareness. An invited talk on "Promoting Agri Startups: Programs and Experiences from MANAGE CIA" highlighted opportunities in agricultural entrepreneurship and showcased successful models for turning innovative ideas into viable businesses. In alignment with the "Waste to Wealth" concept, the institution also emphasized the importance of transforming plastic waste into valuable resources, supporting both environmental sustainability and the circular economy. A webinar on Renewable Sources of Energy educated participants on the use of renewable energy sources like solar and wind, advocating for reduced dependence on fossil fuels. Additionally, a one-day workshop on Green Technology Applications for Infrastructure Steep Slope Stabilization introduced participants to Vetiver Technology (VT), an eco-friendly solution for managing soil slope stability using vetiver grass. These initiatives reflect the institution's proactive approach in integrating sustainability into its academic, research, and outreach activities, while also encouraging innovation and entrepreneurship for a greener future.



Fig. 9.11g: Sample of seminars and workshops conducted.

Dr. B.C. Roy Engineering College actively promotes entrepreneurship through its Entrepreneurship Cell (E-Cell), in collaboration with the Institute Innovation Council (IIC). These initiatives aim to inspire students to become job creators rather than job seekers, nurturing a culture of innovation, self-reliance, and economic development. As part of this effort, the institution organized a seminar on Digital Entrepreneurship and e-Start-up, which provided students with insights into starting and scaling digital businesses in the modern economy. These programs not only enhance entrepreneurial skills but also align with the institution's broader mission of upholding constitutional values, promoting inclusivity, driving sustainability, and contributing to societal progress.



Fig. 9.11h: Sample events conducted.

The present university curriculum integrates the implementation of Sustainable Development Goals (SDGs) through core courses that incorporate problem-based learning. These courses engage students with real-life engineering challenges, encouraging them to apply interdisciplinary knowledge in addressing global issues. For instance, subjects like Environmental Engineering, Energy Science, and Engineering involve assignments and projects focused on developing sustainable models and conducting life cycle assessments, directly contributing to SDGs such as Clean Water and Sanitation, Affordable and Clean Energy, and Climate Action.

Project-based learning is a cornerstone of sustainable thinking within the curriculum. From the third year, students undertake final-year projects that often revolve around industry-relevant, sustainability-centered problems, including the design of energy-efficient buildings, solar-powered irrigation systems, and waste management solutions. These projects help students assess the economic, environmental, and social impacts of their innovations and contribute significantly to Industry, Innovation, and Infrastructure and Sustainable Cities and Communities.

The final-year project serves as a culmination of students four-year academic journey, requiring them to synthesize their learning into practical, innovative solutions to complex engineering challenges. Project themes have included the development of smart traffic systems to reduce emissions, water purification technologies for underserved areas, and utilization of industrial waste as sustainable alternatives to conventional construction materials—aligning well with Sustainable Cities and Communities and Climate Action. These projects are evaluated based on sustainability, scalability, and societal impact. In addition, Tech-Fests and model-making competitions provide dynamic platforms for students to collaborate, prototype, and present solutions under time constraints. Projects like IoT-based subgrade moisture detection and machine learning-enabled structural health monitoring showcase contributions to Industry, Innovation, and Infrastructure and Responsible Consumption and Production.

Implementation of SDG through projects.

Students are also motivated to engage in industry-sponsored projects and internships within construction, design, and environmental sectors, focusing on green manufacturing, environmental compliance, and sustainable construction. Site visits, seminars, and webinars on emerging topics like 3D printing in construction, sustainable agriculture, and project management further strengthen understanding and practical skills in areas linked to sustainability.

Moreover, the department's consultancy services to nearby industries, with active student participation, create real-world exposure and address Quality Education. These initiatives bridge the gap between academia and industry, fostering socially responsible and sustainability-conscious engineers. In conclusion, the integration of SDG-based learning throughout the curriculum—via projects, competitions, workshops, and field activities—enables students to develop into innovative, industry-ready professionals who are equipped to solve the complex sustainability challenges of today and the future.

9.11.1: Sample B. Tech Project (2025-2026) Mapped to SDG Goals.

Dr. B. C. Roy Engineering College, Durgapur / Department of Computer Science and Engineering / Paper code –PROJ-CS881			
Sl. No.	Project Title	SDG Goal Number	SDG Goal Name
1	Intrusion Detection System	SDG 9	Industry, Innovation & Infrastructure
2	Private Key Security in WDM PON networks using Shamir's secret sharing	SDG 9	Industry, Innovation & Infrastructure
3	Skin Cancer Classification using Machine Learning	SDG 3	Good Health & Well-being
4	Sensor scheduling using multi-objective optimization	SDG 9	Industry, Innovation & Infrastructure
5	Biomedical image processing using deep learning algorithm	SDG 3	Good Health & Well-being
6	Deep learning based disease detection and segmentation from radiographic images	SDG 3	Good Health & Well-being
7	VIT - based Ensemble CNN for classifying plants disease detection	SDG 2	Zero Hunger
8	Heart Disease Prediction With Personalized Diet Plan	SDG 3	Good Health & Well-being
9	Context aware sound detection using heterogeneous IoT sensors and ML	SDG 9	Industry, Innovation & Infrastructure
10	Smart Farming	SDG 2	Zero Hunger
11	Lung cancer detection system using AI and ML	SDG 3	Good Health & Well-being
12	AI based species detection system	SDG 15	Life on Land
13	College Recommendations System	SDG 4	Quality Education
14	Speech conversion to ISL using Transformer model	SDG 10	Reduced Inequalities
15	Online payment fraud detection	SDG 16	Peace, Justice & Strong Institutions
16	Smart Drug Suggestions System	SDG 3	Good Health & Well-being
17	AI based Surveillance and Guidance System for Smart College Campus	SDG 4	Quality Education
18	Privacy-Preserving Techniques in Federated Learning for Intrusion Detection Systems	SDG 9	Industry, Innovation & Infrastructure
19	Identification of Indoor activities from context aware acoustic information	SDG 9	Industry, Innovation & Infrastructure
20	Lifetime maximization in Wireless Sensor Network	SDG 9	Industry, Innovation & Infrastructure
21	Identification of Classroom activities from context aware acoustic information	SDG 4	Quality Education
22	Disease Detection using Deep Learning	SDG 3	Good Health & Well-being
23	Exploring the Bit coin Crypto currency Market	SDG 8	Decent Work & Economic Growth
24	ECG on sleep apnea	SDG 3	Good Health & Well-being
25	Automatic detection of craters & boulders from Orbiter High Resolution Camera images using AI/ML	SDG 9	Industry, Innovation & Infrastructure
26	Algorithmic Insights into Cooking Activity: Monitoring and Mitigating Indoor PM2.5 Exposure	SDG 11	Sustainable Cities & Communities
27	Personalized shopping assistant with facial recognition	SDG 8	Decent Work & Economic Growth
28	Poverty prediction using satellite images	SDG 1	No Poverty
29	Human Scream Detection and Analysis for Controlling Crime Rate	SDG 16	Peace, Justice & Strong Institutions
30	Application of Linear Regression and Classification Techniques on Low-Dimensional Datasets	SDG 4	Quality Education
31	A gait analysis-based recognition system invariant to angles and cloth	SDG 9	Industry, Innovation & Infrastructure
32	Document Verification using Zero knowledge proof	SDG 16	Peace, Justice & Strong Institutions
33	Predictive Cyber-attack Modelling Using Federated Learning	SDG 16	Peace, Justice & Strong Institutions

34	AutoEase: Enhancing Urban Mobility with an Intelligent Auto Ride Booking Platform	SDG 11	Sustainable Cities & Communities
35	Real-time Insights from Social Media Data	SDG 9	Industry, Innovation & Infrastructure
36	Women Empowerment App (Safe Her)	SDG 5	Gender Equality
37	Machine Learning	SDG 4	Quality Education
38	Development of a Custom ERP System for Modern D-2-C Textile Brands in India	SDG 9	Industry, Innovation & Infrastructure
39	Real-time Insights from Social Media Data	SDG 9	Industry, Innovation & Infrastructure
40	Fake News Detection Using NLP	SDG 16	Peace, Justice & Strong Institutions
41	IoT & Machine Learning (Smart Attendance)	SDG 4	Quality Education
42	IoT & Machine Learning (Smart Parking)	SDG 11	Sustainable Cities & Communities
43	ML based Movie Recommendation	SDG 4	Quality Education
44	Sign Language Recognition App	SDG 4	Quality Education
45	Application Of Machine Learning for Breast cancer Diagnosis	SDG 3	Good Health & Well-being
46	Stock price prediction using ML	SDG 8	Decent Work & Economic Growth
47	Self-Driving car	SDG 9	Industry, Innovation & Infrastructure

9.12 Innovative Educational Initiatives and Implementation (5)

Initiatives taken towards mobility of students

Dr. B.C. Roy Engineering College has implemented various initiatives to promote student mobility and enhance learning beyond the classroom. The institution facilitates participation in student exchange programs, internships, and industry-academia collaborations, enabling students to gain exposure to different academic, cultural, and professional environments. Tie-ups with external institutions, government programs like AICTE's student development schemes, and participation in national-level innovation and entrepreneurship platforms further support this goal. The college also encourages students to attend external workshops, hackathons, conferences, and certification courses, fostering academic growth and employability. These efforts aim to equip students with global competencies and real-world experiences to help them thrive in a competitive, interconnected world.

Implementation of academic bank of credits

Dr. B.C. Roy Engineering College is committed to implementing the Academic Bank of Credits (ABC) system in alignment with the provisions of the National Education Policy (NEP) 2020. The ABC framework aims to provide students with flexibility through multiple entry and exit options, enabling them to accumulate and transfer credits earned from various recognized platforms such as SWAYAM, NPTEL, and other national-level learning schemes. While the implementation is guided by the directives of the affiliated university and the Higher Education Department, Government of West Bengal, the institution has proactively initiated the process. Students have been instructed, through their respective departments, to create their ABC IDs to ensure they are prepared for seamless credit accumulation and transfer. Additionally, the institute has applied for autonomous status, which will further strengthen its ability to integrate ABC effectively. Upon receiving autonomy, the institute will make it mandatory for all students to register under the ABC system, ensuring complete alignment with NEP 2020 and enhancing academic flexibility and lifelong learning opportunities.

Holistic education and promotion of human values

As an affiliated college under Maulana Abu IKalam Azad University of Technology (MAKAUT), Dr. B. C. Roy Engineering College (BCREC) adheres to the university-designed course structure and curriculum. While the multidisciplinary and interdisciplinary approach is yet to be fully implemented at the university level, BCREC has proactively taken steps to align with the holistic education model advocated by the National Education Policy (NEP) 2020. To foster academic breadth and student autonomy, the college offers a variety of Add-on courses that allow students from all streams to explore diverse disciplines beyond their core subjects. These courses are conducted in both online and offline modes, making them accessible and inclusive. With the institute's application for autonomous status underway, there are plans to introduce structured Open Electives across departments to enhance interdisciplinary learning even further.

In addition to academic enrichment, the institution emphasizes the development of human values, ethical reasoning, and civic responsibility. Courses such as Human Values and Professional Ethics, The Constitution of India, Ethics & Value Systems in Indian Culture, and Environment & Ecosystem are part of the UG curriculum to nurture responsible citizens who are sensitive to national integration, sustainability, and cultural heritage. A dedicated course on Indian Knowledge System included in curriculum of autonomous batches.

BCREC also fosters experiential learning and social engagement through active participation in NSS and NCC programs, promoting social responsibility and community well-being. Students participate in awareness drives, tree plantation campaigns; street plays on environmental issues, and health outreach activities such as visits to local schools to promote hygiene and literacy. Programs like the "Digital Creators' Competition," anti-plastic rallies, and Womens Day seminars on workplace rights exemplify the institution's efforts to promote civic consciousness and gender sensitivity. Events like the Youth Convention and the distribution of essential items to marginalized communities further strengthen student engagement with real-world social challenges. Through this integrated approach combining academics, ethics, community service, and national values, Dr. B. C. Roy Engineering College remains committed to delivering holistic education that not only imparts knowledge but also shapes compassionate, competent, and culturally grounded individuals.

Multidisciplinary/interdisciplinary curriculum/ programs

As an affiliated institution under MAKAUT, Dr. B. C. Roy Engineering College currently follows the course structure and curriculum prescribed by the parent university, which is in the process of fully integrating a multidisciplinary and interdisciplinary approach. However, in alignment with the vision of the National Education Policy (NEP) 2020 and to promote holistic academic development, the college has proactively introduced Add-on Courses. These courses provide students with the flexibility to choose subjects outside their core disciplines, enabling a broader learning experience. Classes for these courses are conducted in both online and offline modes to ensure accessibility for students across all streams. Furthermore, the college has applied for autonomous status, which, once granted, will allow for the introduction of a more structured and diverse set of Open Electives through various departments, thereby expanding opportunities for interdisciplinary learning and academic exploration.

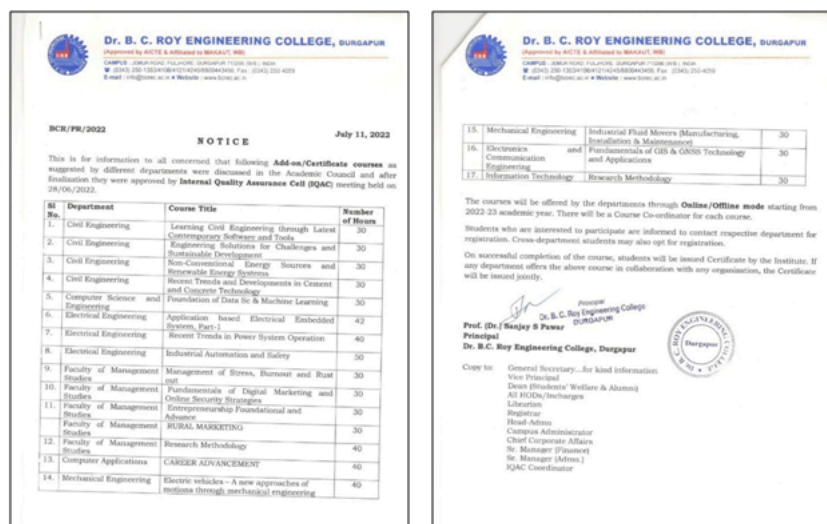


Fig. 9.12a: Sample Add-on Notice.

Initiatives on Indian Knowledge System

The institute ensures the appropriate integration of the Indian Knowledge System (IKS) through the Choice Based Credit System (CBCS) as prescribed by the parent university, MaulanaAbulKalam Azad University of Technology (MAKAUT). In alignment with the NEP 2020 framework, students are encouraged to enroll in MOOCs on Values and Ethics to strengthen their understanding of Indian culture and ethical foundations. While English remains the primary medium of instruction, faculty members and technical staff also support students by communicating in regional languages such as Bengali and Hindi, which are widely spoken in this region, thus making learning more inclusive and effective.

To promote holistic development, the institute has established various committees that sensitize students to cross-cutting themes such as Gender Equality, Environmental Sustainability, Human Values, and Professional Ethics. As part of the curriculum, subjects like The Indian Constitution, Ethics and Value Systems in Indian Culture, and Environment Ecosystem are offered to foster a strong sense of national integration, civic responsibility, and cultural awareness among students.

With the adoption of autonomous status from the 2023-24 academic year, a dedicated course on the Indian Knowledge System has been included in the curriculum to deepen student understanding of traditional Indian philosophies, sciences, and cultural heritage.

Contribution towards and implementation of teaching in Indian language, etc.

The institute actively integrates the Indian Knowledge System (IKS) into its academic framework by adhering to the Choice Based Credit System (CBCS) prescribed by its parent university, MaulanaAbulKalam Azad University of Technology (MAKAUT). In line with the spirit of NEP 2020, students are encouraged to pursue MOOCs on values, ethics, and Indian traditions, enriching their understanding of India's cultural and philosophical heritage. While English remains the primary medium of instruction, faculty members and technical staff also communicate in regional languages such as Bengali and Hindi, ensuring that students from diverse linguistic backgrounds feel included and supported in their learning process.

The institute has also established various committees and student forums to address cross-cutting issues such as gender sensitization, environmental sustainability, human values, and professional ethics. These initiatives aim to nurture creative thinking, empathy, and socially responsible behavior among students. Courses like The Indian Constitution, Ethics and Value System of Indian Culture, and Environmental Ecosystem are integrated into the curriculum to promote national integration, civic awareness, and respect for cultural diversity. With the adoption of autonomous status from the 2023-24 academic year, a dedicated course on the Indian Knowledge System has been included in the curriculum to deepen student understanding of traditional Indian philosophies, sciences, and cultural heritage.

While English is used as the official working language, inclusive communication practices are maintained to ensure no student feels excluded due to language barriers. This fosters a supportive and equitable educational environment, enabling holistic development and a deeper connection to India's intellectual and cultural legacy.

Policies on inclusivity, equity, and their implementation

Dr. B. C. Roy Engineering College (BCREC) promotes gender sensitization through seminars, debates, and awareness programs that address discrimination, harassment, and gender equality. These initiatives are conducted in collaboration with faculty, the NSS Cell, and dedicated bodies like the Women's Cell, which is actively involved in counselling, education, and empowerment of girl students.

The curriculum incorporates topics on value-based education, gender sensitization, women empowerment, and the evolving social roles of men and women. Institutional mechanisms such as the Anti-Harassment Committee, Internal Complaints Committee (ICC), and Women's Grievance Redressal Cell, all led by senior female faculty, ensure that gender-related grievances are addressed promptly and sensitively, while maintaining a safe and supportive atmosphere for all.

BCREC strictly follows a "No Discrimination Policy", which guarantees equal opportunities in academic, administrative, and extracurricular domains. Women faculty members are well represented in key committees, including IQAC, Training & Placement, and Cultural Coordination, reinforcing the commitment to equity in leadership and decision-making roles.

The institution also emphasizes diversity and inclusion through accessibility measures for differently-abled individuals, helping normalize diverse identities within the campus community. Cultural events like International Women's Day and national festivals are celebrated with equal participation from all genders, reinforcing the values of coexistence and mutual respect. BCREC's strategic focus revolves around the three Es – Equity in Education, Excellence in Academics, and Employability. The college continuously updates its policies to improve educational outcomes and promote employment opportunities for all students, with dedicated monitoring by senior faculty and collaboration with industry partners. Furthermore, the NSS Cell actively leads social outreach and charitable activities, reflecting the institution's deep-rooted commitment to social responsibility and community engagement. By embracing inclusivity and equity as core institutional values, BCREC nurtures a harmonious campus culture where every individual is empowered to thrive and contribute meaningfully to society.

The institute is deeply committed to promoting gender equality and ensuring a safe and supportive environment for all. To address issues such as sexual harassment and women's grievances, dedicated committees have been established, including the Internal Complaints Committee (ICC), which meets regularly to ensure that safety and security are upheld. The institute prioritizes safety and security through comprehensive measures, including the installation of CCTV cameras at key locations, which are continuously monitored. Additionally, the institution offers counselling services, common rooms for both male and female students, and implements specific guidelines for safety that support the well-being of all students, faculty, and staff.



Fig. 9.12b: Seminar organized on 16.08.2023 'Women at the workplace – Legal Aspects.



Fig. 9.12c: Observation of "National Pollution Control Day" on 1st December, 2023 through Street Drama (Nukkad Natak) and Digital/Flex posters presentation.

Support for economically, socially and physically challenged students

Dr. B. C. Roy Engineering College, Durgapur, is committed to providing equal opportunities and a supportive environment for students from economically, socially, and physically challenged backgrounds. The institute recognizes that diverse social, economic, and physical conditions influence learning outcomes and thus takes proactive steps to ensure inclusivity. To support students with physical disabilities, the campus has been made disabled-friendly with the construction of ramps and installation of lifts in key buildings such as the Main Administrative Block, Central Library, and Vidyasagar Bhawan. Additionally, specially designed disabled-friendly washrooms and dedicated assisting staff are available to support students, employees, and faculty members with physical challenges. The institution is also mindful of the needs of students from underprivileged economic and social backgrounds and provides necessary academic and infrastructural support to promote equitable access to education and a sustainable, inclusive learning environment.



Fig. 9.12d: Disabled-friendly ramps at campus

Action plan and its implementation for slow learners

The Institute places strong emphasis on supporting students from diverse social and economic backgrounds by acknowledging that learning outcomes are shaped by individual talents, abilities, and challenges. To address the needs of slow learners, a systematic approach is implemented beginning with the AICTE Induction Programme, where faculty interact closely with students to identify their learning levels. Further evaluation is carried out through personalized mentoring sessions, where academic performance, behavioural attributes, and psychological traits are carefully assessed. Based on these assessments, slow learners are provided targeted support through remedial classes, particularly in foundational subjects like Mathematics and English.

The college also offers a variety of Add-on courses that allow students from all streams to explore diverse disciplines beyond their core subjects. In addition to academic reinforcement, these students are actively encouraged to broaden their exposure by attending webinars, seminars, and expert lectures. They are also motivated to join professional bodies such as IEEE, CSI, IEL, and E-Cell, participate in research projects, publish articles, and pursue online courses (MOOCs) and certifications. Moreover, they are guided to prepare for competitive examinations like GATE, GRE, and CAT, thereby fostering a comprehensive and inclusive learning ecosystem aimed at their academic and professional growth.

9.13 Faculty Performance Appraisal and Development System (FPADS) (10)

Faculty performance appraisals are conducted, involving a self-assessment followed by evaluation by department heads and the institutes director. This appraisal process operates in two stages:

1. Confirmation after Probation: Faculty undergo a comprehensive evaluation at the end of their probation period to confirm their appointment.
2. Self-Appraisal for Promotion: Faculty members submit self-appraisal reports, which serve as a basis for consideration during promotion reviews.

This structured appraisal system is designed to support faculty development and recognize their contributions to academic and institutional excellence.

A well-defined system for faculty appraisal for all the assessment years (10)

For faculty appraisal, the following key points are considered:

Academic Performance Indicators (API):

- Teaching-learning and evaluation metrics such as lecture delivery, syllabus completion, and innovative teaching practices.
- Participation in curriculum enrichment activities like organizing seminars, guest lectures, and workshops.

Research Contributions:

- Publication of research papers in indexed journals, conference proceedings, and book chapters.
- Completion of sponsored projects, patents, and consultancy work.

Professional Development Activities:

- Participation in faculty development programs, refresher courses, and subject-relevant training.
- Membership in professional bodies and contributions to committees at state or national levels.

Institutional Contributions:

- Engagement in student-related co-curricular activities, counseling, and mentoring.
- Participation in committees for institutional governance and decision-making.

Student Feedback:

- Regular assessment of teaching quality through structured feedback mechanisms.

Community and Industry Engagement:

- Outreach activities, extension work, and partnerships with industry for real-world problem-solving.

The faculty appraisal system follows a structured process to ensure fairness and transparency. Faculty members annually submit a self-appraisal form detailing their contributions to teaching, research, and institutional activities, supported by mandatory documents such as certificates, reports, and publications. Points are allocated through an API-based scoring system, with minimum requirements in teaching-learning (75), research (20–30), and co-curricular activities (15). The appraisal is then reviewed by a panel of department heads and senior faculty members, who evaluate contributions to institutional objectives and professional conduct. Promotions under the Career Advancement Scheme (CAS) are based on API scores and the successful completion of professional development activities such as NPTEL or AICTE-approved training programs. This system fosters accountability and aligns faculty efforts with institutional goals.

Sample for Performance-Based Appraisal System for Professor, Associate Professor & Assistant Professor:

Annexure-I

API Proforma for Professor, Associate Professor & Assistant Professor

ACADEMIC PERFORMANCE INDICATORS BASED ON PERFORMANCE BASED

APPRAISAL SYSTEM TO BE SUBMITTED BY EACH APPLICANT FOR APPOINTMENT OF TEACHERS AND OTHER ACADEMIC STAFF

AS PER UGC REGULATIONS, 2010

Advertisement No.	
Name of the Applicant	
Date of Birth	
Post applied for and Subject	
Name of the Department	

SCORES FOR ACADEMIC PERFORMANCE INDICATORS (APIs) IN RECRUITMENTS AND CAREER ADVANCEMENT SCHEME (CAS) PROMOTIONS OF UNIVERSITY / COLLEGE TEACHERS

CATEGORY I: TEACHING, LEARNING AND EVALUATION RELATED ACTIVITIES

Brief Explanation: Based on the teacher's self-assessment, API scores are proposed for (a) teaching-related activities; (b) domain knowledge; (c) participation in examination and evaluation; (d) contribution to innovative teaching, new courses etc. The minimum API score required by teachers from this category is 75. The self-assessment score should be based on objectively verifiable criteria wherever possible and will be finalized by the screening/selection committee.

Sl. No.	Nature of Activity	Maximum Score	Self-Assessment Score (to be filled by applicant)	Verified API Score (for official use)
1	Lectures, seminars, tutorials, practicals, contact hours undertaken taken as percentage of lectures allocated	50		
2	Lectures or other teaching duties in excess of the UGC norms	10		

3	Preparation and Imparting of knowledge/instruction as per curriculum; syllabus enrichment by providing additional resources to students	20		
4	Use of participatory and innovative teaching methodologies; updating of subject content, course improvement etc	20		
5	Examination duties (Invigilation; question paper setting, evaluation/assessment of answer scripts) as per allotment.	25		
Total Score		125		
Minimum API Score Required		75		

CATEGORY II: CO-CURRICULAR, EXTENSION, AND PROFESSIONAL DEVELOPMENT-RELATED ACTIVITIES.

Brief Explanation: Based on the teacher's self-assessment, category II API scores are proposed for co-curricular and extension activities, and Professional development-related contributions. The minimum API required by teachers for eligibility for promotion is 15. A list of items and proposed scores is given below. It will be noticed that all teachers can earn scores from several items, whereas some activities will be carried out only by one or a few teachers. The list of activities is broad enough for the minimum API score required (15) in this category to accrue to all teachers. As before, the self-assessment score should be based on objectively verifiable criteria and will be finalized by the screening/selection committee.

Sl. No.	Nature of Activity	Maximum Score	Self-Assessment Score (to be filled by the applicant)	Verified API Score (for official use)
1	Student-related co-curricular, extension, and field-based activities (such as extension work through NSS/NCC and other channels, cultural activities, subject-related events, advisement, and counselling)	20		
2	Contribution to Corporate life and management of the department and institution through participation in academic and administrative committees and responsibilities.	15		
3	Professional Development activities (such as participation in seminars, conferences, short-term, training courses, talks, lectures, membership of associations, dissemination, and general articles, not covered in Category III below)	15		
Minimum API Score Required		15		

CATEGORY-III: RESEARCH AND ACADEMIC CONTRIBUTIONS

Brief Explanation: Based on the teacher's self-assessment, API scores are proposed for research and academic contributions. The minimum API score required by teachers from this category is different for different levels of promotion and between universities and colleges. The self-assessment score will be based on verifiable criteria and will be finalized by the screening/selection committee.

Sl. No.	APIs	Engineering/Agriculture/Veterinary Science/Sciences/Medical Sciences	Faculties of Languages Arts/Humanities/Social Sciences/Library/Physical Education/Management	Max. points for University and college teacher position	Self Assessment Score (to be filled by the applicant)	Verified API Score (for official use)
III A	Research Papers published in:	Refereed Journals *	Refereed Journals*	15 / publication		
		Non-refereed but recognized and reputable journals and periodicals, having ISBN/ISSN numbers.	Non-refereed but recognized and reputable journals and periodicals, having ISBN/ISSN numbers.	10 / Publication		
		Conference proceedings as full papers, etc. (Abstracts not to be included)	Conference proceedings as full papers, etc. (Abstracts not to be included)	10/ publication		

III (B)	Research Publications (books, chapters in books, other than refereed journal articles)	Text or Reference Books Published by International Publishers with an established peer review system	Text or Reference Books Published by the International Publishers with an established peer review system	50 /sole author; 10 /chapter in an edited book		
		Subjects Books by National level publishers/State and Central Govt. Publications with ISBN/ISSN numbers.	Subject Books by / national level publishers/State and Central Govt. Publications with ISBN/ISSN numbers.	25 /sole author, and 5/ chapter in edited books		
		Subject Books by Other local publishers with ISBN/ISSN numbers.	Subject Books by Other local publishers with ISBN/ISSN numbers.	15 / sole author, and 3 / chapter in edited books		
		Chapters contributed to edited knowledge-based volumes published by International Publishers	Chapters contributed to edited knowledge-based volumes published by International Publishers	10 /Chapter		
		Chapters in knowledge-based volumes by Indian/National level publishers with ISBN/ISSN numbers and with numbers of national and international directories	Chapters in knowledge-based volumes in Indian/National level publishers with ISBN/ISSN numbers and with numbers of national and international directories	5 / Chapter		
III (C)	RESEARCH PROJECTS					
III (C) (i)	Sponsored Projects carried out/ ongoing	(a) Major Projects amount mobilized with grants above 30.0 lakhs	Major Projects amount mobilized with grants above 5.0 lakhs	20 /each Project		
		(b) Major Projects amount mobilized with grants above 5.0 lakhs up to 30.00 lakhs	Major Projects Amount mobilized with a minimum of Rs. 3.00 lakhs up to Rs. 5.00 lakhs	15 /each Project		
		(c) Minor Projects (Amount mobilized with grants above Rs. 50,000 up to Rs. 5 lakh)	Minor Projects (Amount mobilized with grants above Rs. 25,000 up to Rs. 3 lakh)	10/each Project		
III (C) (ii)	Consultancy Projects carried out / ongoing	Amount mobilized with a minimum of Rs.10.00 lakh	Amount mobilized with a minimum of Rs. 2.0 lakhs Rs.10.0 lakhs and	10 per every Rs.2.0 lakhs, respectively		
III (C) (iii)	Completed projects : Quality Evaluation	Completed project Report (Acceptance from funding agency)	Completed project report (Accepted by funding agency)	20 /each major project and 10 / each minor project		
III (C) (iv)	Projects Outcome / Outputs	Patent/Technology transfer/ Product/Process	Major Policy document of Govt. Bodies at Central and State level	30 / each national level output or patent /50 /each for the International level		

RESEARCH GUIDANCE						
III (D)						
III (D) (i)	M.Phil.	Degree awarded only	Degree awarded only	3 /each candidate		
III (D) (ii)	Ph.D	Degree awarded	Degree awarded	10 /each candidate		
		Thesis submitted	Thesis submitted	7 /each candidate		
III(E)	TRAINING COURSES AND CONFERENCE /SEMINAR/WORKSHOP PAPERS					
III(E) (i)	Refresher courses, Methodology workshops, Training, Teaching Learning-Evaluation Technology Programmes, Soft Skills development Programmes, Faculty Development Programmes (Max: 30 points)	(a) Not less than two weeks duration	(a) Not less than two weeks duration	20/each		
		(b) One-week duration	(b) One-week duration	10/each		
III(E) (ii)	Papers in Conferences/ Seminars/ workshops etc.**	Participation and Presentation of research papers (oral/poster) in	Participation and Presentation of research papers(oral/poster) in			
		a) International Conference	a) International Conference	10 each		
		b) National	b) National	7.5 / each		
		c) Regional/State level	c) Regional/State level	5 /each		
		d) Local – University/College	d) Local – University/College	3 / each		
III(E) (iv)	Invited lectures or presentations for conferences/ symposia	(a) International	(a) International	10 /each		
		(b) National level	(b) National level	5		

*Wherever relevant to any specific discipline, the API score for a paper in the refereed journal would be augmented as follows: (i) indexed journals – by 5 points; (ii) papers with impact factor between 1 and 2 by 10 points; (iii) papers with impact factor between 2 and 5 by 15 points; (iv) papers with impact factor between 5 and 10 by 25 points.

** If a paper presented in a Conference/Seminar is published in the form of Proceedings, the points would accrue for the publication (III (a)) and not under presentation (III (e)(ii)).

Note: The API for joint publications will have to be calculated in the following manner: Of the total score for the relevant category of publication by the concerned teacher, the first/Principal author and the corresponding author/supervisor/mentor of the teacher would share equally 60% of the total points and the remaining 40% would be shared equally by all other authors.

Its implementation and effectiveness

Implementation

The institution adopts a transparent and systematic process to ensure fairness in faculty appraisal and career progression. Clear guidelines and regular interactions provide faculty members with an understanding of the activities contributing to their API (Academic Performance Indicator) scores. Key steps include:

- Establishing clear guidelines for activities that enhance API scores.
- Conducting meetings to familiarize faculty with the appraisal system.
- Ensuring a fair and systematic appraisal process to align faculty contributions with institutional goals.

Effectiveness

The appraisal system adopts a culture of continuous improvement, professional growth, and accountability, aligning individual goals with the institutions objectives. The following measures demonstrate its effectiveness:

1. Promotes continuous improvement in teaching and research.
2. Encourages participation in professional development and industry collaboration.
3. Encourages faculty to assess and strengthen their professional growth through performance evaluations.
4. Uses appraisals for merit-based salary decisions while offering constructive feedback on strengths and weaknesses.
5. Supports faculty involved in R&D projects and consultancy.

6. Supports faculty in applying for research grants, and reimburses expenses for filing patents and copyrights.
7. Promotes memberships in professional societies such as IEL.
8. Encourages participation in orientation courses, refresher courses, and training programs organized by reputed institutions.
9. Organizes national and international seminars, guest lectures, workshops, and conferences on crucial topics.
10. Provides leave for attending seminars, workshops, and FDPs at state/national levels.
11. Supports faculty for publication in journals, book chapters, and conferences under the Research Incentive Scheme.
12. Incorporates student feedback into faculty evaluations, ensuring it meets a minimum standard, with corrective actions for scores below the standard.

9.14 Outreach Activities (5)

The institution has always focused on the holistic development of its students while making a positive difference in the surrounding community. Its vision is to support sustainable livelihoods, improve the well-being of the neighborhood, and develop ethical and socially responsible engineers who live and work in harmony with nature. In line with this vision, the institution actively promotes community service and social awareness through its NSS and NCC units, which have been functional for over a decade.

The institution organizes various outreach programs that help students understand social realities and encourage their participation in community service. These programs address important issues such as environmental protection, health and hygiene, education, disaster preparedness, gender equality, and support for the underprivileged.

During the academic year 2023–24, many valuable activities were carried out. These included a digital creators' competition to spread environmental awareness, a street play and rally to reduce plastic use, and tree plantations in and around the campus to promote sustainability. On World Health Day, students visited BamunaraAdibasiAbaitanick Primary School to distribute hygiene kits and share awareness posters. Health camps and blood donation camps were conducted for the benefit of nearby villagers. Clothes were donated to underprivileged women and children, especially during Durga Puja. Womens Day was observed through seminars and a webinar on nutrition and hygiene. Students also joined a youth convention and took part in campus and hostel cleaning activities under the Swachh Bharat Abhiyan.

In the academic year 2022–23, students presented innovative ideas on National Youth Day under the theme “Viksit-Yuva-Viksit-Bharat.” Yoga and health sessions were held to mark World Health Day and World Earth Day, and International Yoga Day was also observed. Gender sensitization programs, including Women's Day celebrations, helped students learn about equality and inclusion.

In 2021–22, the NSS unit organized a poster competition on single-use plastic as part of the Clean India campaign. Students participated in the “Rastragaan” initiative to mark 75 years of independence by singing and uploading the national anthem. Yoga Day was celebrated to encourage physical and mental wellness. Students also visited Dashirbad village to raise awareness about health and hygiene. A special session was held to introduce students to start-up planning and to explain legal and ethical responsibilities.

In addition to these events, the institution encourages active participation from faculty, staff, and students in long-term outreach efforts. Since 2017, cleanliness drives have been organized regularly under the Swachh Bharat initiative. Tree plantation drives and e-waste recycling bins promote environmental responsibility. Campaigns such as “Say No to Plastic” and “Helmet Awareness Week” help raise awareness on safety and sustainability.

The NSS team, along with the 2nd Battalion of NDRF, conducted disaster management workshops to prepare students for emergencies. Health outreach programs included voluntary blood donation drives, thalassemia awareness workshops, and organ donation awareness events in collaboration with hospitals and NGOs.

The institution always gives special attention to the needs of marginalized communities, especially women and children from underprivileged backgrounds. Charity drives have supported organizations such as the Missionaries of Charity and Vivekananda Bani Prachar Samity through donations of money, clothes, food, and educational materials.

Through all these activities, the institution continues to show a strong commitment to community development and social responsibility. These programs help students become compassionate, responsible individuals while also benefiting the society around them.

In alignment with the institution's vision of sustainable development and producing socially responsible engineers, a wide range of community engagement activities have been undertaken by students under initiatives such as Unnat Bharat Abhiyan, social internships, and other society connect programs.

Under **Unnat Bharat Abhiyan**, the institution has adopted nearby villages where students have been actively involved in developmental initiatives. These include awareness campaigns on health and hygiene, digital literacy programs, sanitation drives, and promotion of environmental sustainability through plantation efforts and plastic reduction awareness. The students' fieldwork has contributed significantly to improving the well-being of rural communities by identifying local challenges and suggesting practical solutions rooted in engineering and innovation.

Through **social internships**, students have worked with NGOs, local bodies, and public institutions to gain hands-on experience in solving grassroots-level problems. These internships have exposed students to real-life challenges in rural and semi-urban settings, helping them apply their academic knowledge for societal benefit. Key contributions include participation in health camps, educational support for school children, awareness campaigns on women's rights and nutrition, and organizing blood donation and cleanliness drives.

The institution also facilitates **society connect activities** through its active NSS and NCC units. Students have taken part in tree plantations, digital and health awareness campaigns, disaster management training workshops, and environmental conservation initiatives. Charity drives during festive seasons, literacy awareness campaigns in primary schools, and gender sensitization programs have been notable efforts. Students have demonstrated leadership and empathy, making a positive impact on marginalized communities, especially women and children.

These outreach efforts have led to significant achievements in terms of community development, student leadership, and the creation of socially aware, ethical graduates. Students have gained valuable experience in teamwork, problem-solving, and civic responsibility, while the communities involved have benefited from improved awareness, hygiene, and educational support. These programs reflect the institution's commitment to building a strong bridge between academic learning and social responsibility.

9.14.1a Social internship and society connect activities undertaken by the students and their achievements academic year 2023-2024

Number of extension and outreach Programmes conducted by the institution through NSS/ NCC/ Red Cross etc. and those organized in collaboration with industry, community and NGOs during the year (including the programmes such as Swachh Bharat, Awareness, Gender issues etc.)						
Sl. No.	Event name	Event Date	No of participants	No of beneficiaries	Organizing unit/ agency/ collaborating agency	Folder for supporting documents
1	World Plastic Bag Free Day Rally	26-07-2023	12	3 institutions	NSS+NCC	01_WPBF D
2	Community Relations Programme (Cloth distribution to the needy)	10-09-2023	10	100	NSS	02_Charity Drive

3	Literacy Awareness Campaign	27-09-2023	12	50	NSS	03_Literacy awareness
4	Tree Plantation Drive	23-11-2023	37	40 saplings planted	NSS+NCC	04_Tree Plantation
5	Youth Convention	04-04-2024	15		NSS	07_youth convention
6	World Health Day	08-04-2024	10 Volunteers and 190 contributors	80	NSS+NCC	08_WHD
7	World Environment Day	05-06-2024	37	3 institutions	NSS+NCC	09_WED

9.14.1b Social internship and society connect activities undertaken by the students and their achievements academic year 2024-2025

Sl. No.	Event name	Date	Venue	No. of participant s/ volunteers	No. of beneficiaries	Organizing unit/ agency/ collaborating agency
1	Tree Plantation Drive	07-08-2024	Jemua roadsides	15		NSS
2	Blood Donation Camp	13-09-2024	Medical Unit, College campus	50	50	Induction Team
3	Sohrai Art Training Workshop	02/09/2024 to 16/09/2024	Recreation Centre, College Campus	10	67	EDC
4	Awareness and Registration Drive for stem cell donation	05-03-2025	DM auditorium, College Campus	500 (participant s), 150 (donor registration s)	145	DKMS, BMST

9.14.1c Social internship and society connect activities undertaken by the students and their achievements academic year 2025-2026

Sl. No.	Event name	Date	Venue	No. of participant s/ volunteers	No. of beneficiari es	Organizing unit/ agency/ collaborating agency
1	Charity Drive	Phase 1: 16/09/2025 Phase 2: 24/09/2025	Abhayashra m shelter	40	50	NCC
2	Waste to Wealth poster competition	23-09-2025	Dr. BC Roy Engineering College, Durgapur	18	na	NCC
3	Blood Donation Camp	10-10-2025	Dr. BC Roy Engineering College, Durgapur	50	50	Mission Hospital Durgapur / Induction team
4	Road safety : Traffic Awareness for a Sustainable Future	15-03-2026	Durgapur Sporting Association			Civil Engineering Department

5	Fire safety workshop	16-04-2026	Dr. BC Roy Engineering College, Durgapur	240	na	DSP
6	Operation Sindoor commemoration	08-05-2026	Dr. BC Roy Engineering College, Durgapur	180	na	NCC/ Personnel from Kumaoni Regiment

Annexure I
(A) PROGRAM OUTCOME (POs)

Engineering Graduates will be able to:

PO1: Engineering Knowledge: Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.

PO2: Problem Analysis: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4)

PO3: Design/Development of Solutions: Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5)

PO4: Conduct Investigations of Complex Problems: Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).

PO5: Engineering Tool Usage: Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6)

PO6: The Engineer and The World: Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment. (WK1, WK5, and WK7).

PO7: Ethics: Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws. (WK9)

PO8: Individual and Collaborative Team work: Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.

PO9: Communication: Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences

PO10: Project Management and Finance: Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.

PO11: Life-Long Learning: Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change. (WK8)

(B) PROGRAM SPECIFIC OUTCOME (PSOs)
Program should specify 2-4 program specific outcomes.

PSO1	Apply principles of computer science to develop efficient computing solutions for complex real-world problems.
PSO2	Design and develop reliable software systems using modern programming languages, tools, frameworks, and contemporary computing platforms.
PSO3	Integrate knowledge of modern and emerging computing technologies to build innovative and sustainable solutions for societal and industrial needs.

Declaration

The head of the institution needs to make a declaration as per the format given -

- I undertake that, the institution is well aware about the provisions in the NBA's accreditation manual concerned for this application, rules, regulations, notifications and NBA expert visit guidelines in force as on date and the institutes shall fully abide by them.
- It is submitted that information provided in this Self Assessment Report is factually correct.
- I understand and agree that an appropriate disciplinary action against the Institute will be initiated by the NBA. In case, any false statement/information is observed during pre-visit, visit, postvisit and subsequent to grant of accreditation.

Head of the Institute

Name : Dr. Sanjay S. Pawar

Designation : Principal

Signature :


Principal
Dr. B. C. Roy Engineering College
DURGAPUR

Seal of The Institution :



Place : Durgapur

Date : 19-06-2026 13:25:16