

## Report on visit of Vice Chancellor, MAKAUT in BCREC:

Prof. Saikat Maitra, Vice Chancellor of Maulana Abdul Kalam Azad University of Technology (MAKAUT) along with Prof (Dr.) Indranil Mukherjee of MAKAUT conducted a meeting on 20th December, 2017 with all the Principals, Deans of affiliating colleges of (Zone-2 Colleges) Bakura, Birbhum and Burdwan to discuss the following issues:

- (i) Introduction of Common Syllabus
- (ii) Introduction of Mandatory Additional Requirements for the Colleges and
- (iii) Implementation of MOOC's (Massive Open Online Courses).

Addressing the participants, Prof (Dr.) Saikat Maitra, Vice Chancellor of MAKAUT, mentioned that assessing the importance of innovative thinking in designing curriculum, the AICTE shared that technical education in the country required an overhauling. From the next academic session, engineering students, except those at IITs and NITs, will have to study humanities, social sciences including management, environmental sciences, Indian Constitution and **“essence of Indian traditional knowledge”**. These additions are part of the model curriculum the All India Council for Technical Education (AICTE), the regulatory body for technical education in the country, has prescribed for undergraduate courses in engineering. The objective of the revision of the common syllabus is to usefully engage the students towards social causes.

During the inter-active brainstorming session on technical education in the present scenario, Vice Chancellor of MAKAUT also emphasized on the scope for students to develop the ability to learn by themselves and create a habit of life-long learning. He also requested all the faculty members across the colleges to give importance to self learning by way of Massive Open Online Courses (MOOCs) which are free online courses available for anyone to enroll. MOOCs provide an affordable and flexible way to learn new skills, advance the career and deliver quality educational experiences at scale. MOOC.org is an extension of edX, a leader in online learning and education. He also mentioned **“The situation of technical education is not encouraging thus new technology is needed which is also emphasized by AICTE, MHRD and UGC that 20% of syllabus should come from online education”** The teachers should encourage this technological advancement and introduce MOOC in a phase-wise manner, since the students need to be in sync with the industry. He further informed that the initial implementation of the MOOC's should be from the CSE/IT Engineering streams. All teachers have to mentor 10-15 students for 4 Years and submit the evaluation results to MAKAUT, only then could the Degree be awarded from now on”. By promoting this innovative and effective approach to the common syllabus, the initiative aims to empower the technical education with social responsibility and flexible skill development with the help of MOOCs.

# **ADOPTING MASSIVE OPEN ONLINE COURSES (MOOCs)**

*for the*

**DEPARTMENTS OF COMPUTER SCIENCE & ENGINEERING AND  
INFORMATION TECHNOLOGY**

in All Affiliated Colleges  
of

**MAULANA ABUL KALAM AZAD UNIVERSITY OF  
TECHNOLOGY (MAKAUT), WEST BENGAL**

**MASSIVE OPEN ONLINE COURSES (MOOCs) is an  
important pedagogical initiative**

**presently being adopted by MAKAUT-WB**

**Presently, MOOCs will be offered to  
B. Tech. (8<sup>th</sup> Semester) curriculum  
in**

**CSE and IT**

**starting January, 2018**

**In B. Tech. (8<sup>th</sup> Semester curriculum) in CSE and IT**

**3 Theory papers (Elective) and 3 Practical papers**

**Total = 6 papers**

## List of Options under MOOCs

### for Students of B. Tech. (8<sup>th</sup> Semester) in CSE & IT

1. Can follow Regular Class Room courses as prescribed in MAKAUT syllabus in lieu of MOOCs
2. Can adopt all MOOCs offered courses in lieu of Regular Class Room courses as prescribed in MAKAUT syllabus
3. Partial adoption of both Partial Class Room as well as MOOCs courses wherein the range of subject choices increases manifold
4. Subject teacher to facilitate academic interactions with students in college
5. Lecture Sessions and Tutorial Classes for each online course of MOOCs must be shown in the Departmental Time Table
6. Faculty members can also enroll for MOOCs courses along with students to help them in better subject understanding and tutelage

## IMPLEMENTATION PLAN

1. The concerned subject teacher of respective colleges to act as Mentor for opted MOOCs courses
2. The Mentor will facilitate academic interactions with their college students in the respective disciplines
3. The MOOCs courses, though online, must be allocated in the Departmental Time Table in form of Lecture Sessions and Tutorial Periods for each of the online courses adopted
4. The MOOCs courses are also open for Mentors for their further learning and honing their subject skill
5. Participating Mentors can thus better tutor and clarify the subject problems to their respective MOOCs students

**After induction of MOOCs, there will be thus 3 categories of students in  
B. Tech. (8<sup>th</sup> Semester)**

- 1. Students opting for Regular Classroom based courses**
- 2. Students opting for both Regular Classroom based courses and MOOCs Online courses**
- 3 Student Interns fully opting for MOOCs Online courses**

# NPTEL Courses being offered for Computer Science & Engineering/Information Technology (January-April, 2018)

12 WEEKS / JAN 22, 2018

**COMPUTER ORGANIZATION & ARCHITECTURE A PEDAGOGICAL ASPECT**

PROF. SANTOSH DESAI, PROF. L.K. DEKA, PROF. ARVIND SARKAR  
IT OUNAHATI

**SYNTHESIS OF DIGITAL SYSTEMS**

PROF. PREETI RANJAN PANDA, IT DELHI

**INTRODUCTION TO SOFT COMPUTING**

PROF. DEBASIS SAMANTA, IT KHARAGPUR

**INTRODUCTION TO HASKELL PROGRAMMING**

PROF. SPSURESH, CMI

**SOCIAL NETWORKS**

PROF. SUDARSHAN INYANGAR, IT ROOPEE

**ARTIFICIAL INTELLIGENCE KNOWLEDGE REPRESENTATION & REASONING**

PROF. DEEPAK KHEMANI, IT MADRAS

**DATA MINING**

PROF. PAITRA MITTA, IT KHARAGPUR

**HUMAN COMPUTER INTERACTIONS**

PROF. K. PONNURANGAN, IT DELHI

**EMBEDDED SYSTEMS DESIGN**

PROF. ANUPAM BASU, IT KHARAGPUR

**INTRODUCTION TO MACHINE LEARNING**

PROF. BALARAMAN RAVINDRAN, IT MADRAS

**DATA BASE MANAGEMENT SYSTEM**

PROF. PARTHA PRATIM DAS, IT KHARAGPUR

**INFORMATION SECURITY - IV**

PROF. V. KAMARUDDIN, PROF. M. J SHANUJ RAMAN & PROF. VASAN, IT MADRAS

**VLSI PHYSICAL DESIGN**

PROF. INDRAJIT SENGUPTA, IT KHARAGPUR

**REINFORCEMENT LEARNING**

PROF. BALARAMAN RAVINDRAN, IT MADRAS

**CLOUD COMPUTING**

PROF. SOUMYA KANTI GHOSH, IT KHARAGPUR

**PROGRAMMING, DATA STRUCTURES AND ALGORITHMS**

PROF. SUDARSHAN INYANGAR, IT ROOPEE

8 WEEKS / FEB 05, 2018

**INTERNETWORK SECURITY**

PROF. SOUMYAN MURUGESAN, IT KHARAGPUR

**INTRODUCTION TO MODERN APPLICATION DEVELOPMENT**

PROF. GURAV RAJNA, IT MADRAS

**AI : CONSTRAINT SATISFACTION**

PROF. DEEPAK KHEMANI, IT MADRAS

4 WEEKS / FEB 05, 2018

**INTRODUCTION TO INTERNET OF THINGS**

PROF. SUDIP MISHRA, IT KHARAGPUR

**ADVANCED GRAPH THEORY**

PROF. RAJIV MISHRA, IT KANPUR

**DESIGN AND ANALYSIS OF ALGORITHMS**

PROF. MACHWAN MURLING, CMI

**REAL TIME OPERATING SYSTEM**

PROF. RAJIB MALLI, IT KHARAGPUR

**PROBLEM SOLVING THROUGH PROGRAMMING IN C**

PROF. ANUPAM BASU, IT KHARAGPUR

**WIRELESS ADHOC & SENSOR NETWORKS**

PROF. SUDIP MISHRA, IT KHARAGPUR

**PROGRAMMING, DATA STRUCTURES & ALGORITHMS USING PYTHON**

PROF. MACHWAN MURLING, CMI

**PROBABILITY AND COMPUTING**

PROF. JOHN AUGUSTINE, IT MADRAS

# Mapping of NPTEL Courses with MAKAUT Syllabus

Theory (8 <sup>th</sup> Semester)	MAKAUT Class Room Courses	MOOCs Offered Online Courses
Elective 1.	A. Organizational Behaviour B. <b>Project Management</b>	<b>Project Management (12 Weeks Course)</b>
		<b>12 Weeks Course</b>
Elective 2.	A. Advanced Computer Architecture B. Parallel Computing C. Natural Language Processing D. <b>Cryptography &amp; Network Security</b> E. Business Analytics	A. <b>Cryptography &amp; Network Security</b> B. Social Network C. Introduction to Internet of Things D. Introduction to Machine Learning
		<b>8 Weeks Course</b>
Elective 3.	A. Technology Management B. Cyber Law & Security Policy C. Optical Networking D. Low Power Circuits & Systems E. E-Commerce F. Robotics	A. Wireless Adhoc and Sensor Network B. Data Mining C. Advanced Graph Theory D. Introduction to Modern Application Development
<b>Practical</b>		
	Design Lab	Design Lab
	Project-2	Project-2
	Grand Viva	Grand Viva

**Partial adoption by a Student of both Partial Class Room and MOOCs courses facilitates higher range of subject choices for MOOCs students**



**The MOOCs curriculum of MAKAUT and the entire plan for successful operation and implementation of MOOCs have been designed and framed in consultation with MOOCs Committee Members and relevant Subject Specialists**

## **MOOCs students need to undergo Practical sessions of the Design Lab by way of undertaking Online Spoken Tutorial courses**

- The Spoken tutorial online courses is designed by IIT-Bombay and promoted by MHRD, Gol, cover syllabus designed for this lab.
- For C++, Java, Python and Web Based Technologies, Spoken Tutorial Courses are available on the SWAYAM portal. After 2-3 weeks of practice, there will be scope for evaluation and certification.
- Students opting for MOOCs are required to be present and qualify in the final lab examination conducted by the Institute

## Project Work

- MOOCs students under their internship will carry out projects in their respective companies under their supervision.
- The final evaluation of students performance will be done by the company supervisors and will be intimated to respective internal guides of the Department(Institute).
- **Students would be required to attend the final project presentation before external examiners at the end of the semester**

## **Grand Viva**

MOOCs students are to appear and qualify in the Grand Viva conducted by their respective departments at the end of the 8<sup>th</sup> semester

## Student Attendance

after induction of MOOCs

for B. Tech. (8<sup>th</sup> Semester)

1. Students opting for Regular Classroom based courses are to gain attendance by regular attending classroom sessions in their colleges
2. Students partially opting for Regular Classroom based courses and MOOCs Online courses are to be present in college and attend all the assigned periods in the Departmental Time Table for both classroom periods and MOOCs periods
3. Student Interns fully opting for MOOCs Online courses are to bring their attendance records from their respective companies
4. The projects completed by the **Student Interns in their respective companies will be considered for submission as B. Tech. projects to college**

# Enrolment and Course Dates

- A. Cryptography & Network Security
- B. Social Network
- C. Introduction to Internet of Things
- D. Introduction to Machine Learning

Enrolment started from 15<sup>th</sup> Nove., 2017 – till 22<sup>nd</sup> January, 2018(start of course)

- No maximum limit in number of enrolments
- Duration of Course: 22<sup>nd</sup> January, 2018 – 13<sup>rd</sup> April, 2018

- A. Wireless Adhoc and Sensor Network
- B. Data Mining
- C. Advanced Graph Theory
- D. Introduction to Modern Application Development

Enrolment started from 15<sup>th</sup> November, 2017 – till 5<sup>th</sup> February, 2018 (start of course)

- No maximum limit in number of enrolments
- Duration of Course: 5<sup>th</sup> February, 2018 – 30<sup>th</sup> March, 2018

Exam dates for all courses: **28/29 April, 2018**

**THANK YOU !**

**PROPOSAL MANDATORY ADDITIONAL  
REQUIREMENTS FOR EARNING B.TECH  
DEGREE**

By

MAKAUT, WB



# 100 POINTS

Sl. No.	Events	Points
1	MOOCS/Swayam/NPTEL/OCW-MIT/ University Courses	30 [per course]
2	Tech Fest/ Teachers Day/ Fresher's Welcome -	
	Organizer	5
	Participants	3
	College Level	6
	State level	9
	National Level	12
3	Rural Reporting	5
4	Tree Plantation	0.5 [per tree]
5	Participation in Relief Camps	20
6	Participation in Debate/Group Discussion/Tech Quiz	10
7	Publication of Wall Magazine in Institutional Level	10

# 100 POINTS

Sl. No.	Events	Points
8	Publication in News paper/Magazine and Blogs	10
9	Research Publication	15
10	Innovative Projects ( Other than Course Curriculum)	30
11	Blood Donation Camp Participation	5
	Blood Donation Camp Organization	10
12	Sports/Games	
	College Level	5
	University Level	10
	District Level	12
	State Level	15
	National Level	20
13	Cultural Programme (Dance, Drama, Elocution, Music etc.)	10

# 100 POINTS

Sl. No.	Events	Points
14	Member of Professional Society	10
15	Student Chapter	10
16	Relevant Industry visit and Report	10
17	Photography Activities in different clubs ( Photography Club, Cine Club, Gitisansad)	5
18	Participation in Yoga Camp ( Certificate to be submitted )	5
19	Self-Entrepreneurship Programme	30
20	Adventure Sports with Certification	10
21	Training to Underprivileged/Physically challenged	15
22	Community Service and Allied Activities	10

# YEAR WISE POINTS TO EARN

- Current Fourth Year – Min. 25 Points
- Current Third Year – Min. 40 Points
- Current Second Year – Min. 60 Points
- Current First Year – Min. 75 Points

# CURRENT FOURTH YEAR

Sl. No.	Events	Points
1	MOOCS/Swayam/NPTEL/OCW-MIT/ University Courses	30 [per course]

\*At least one course in the following area is mandatory

- Machine Learning
- IOT
- AI
- Algorithms
- UX (User Experience)
- Data Services and Data Analysis
- Cloud Complexity
- Cyber Security

# CURRENT THIRD YEAR

Sl. No.	Events	Points
1	MOOCS/Swayam/NPTEL/OCW-MIT/ University Courses	30 [per course]
2	Participation in Debate/Group Discussion/Tech Quiz	10
3	Publication of Wall Magazine in Institutional Level	10
4	Publication in News paper/Magazine and Blogs	10
5	Research Publication	15
6	Innovative Projects ( Other than Course Curriculum)	30

# CURRENT FIRST AND SECOND YEAR

Sl. No.	Events	Points
1	MOOCS/Swayam/NPTEL/OCW-MIT/ University Courses	30 [per course]
2	Tech Fest/ Teachers Day/ Fresher's Welcome	
	Organizer	5
	Participants	3
	College Level	6
	State level	9
	National Level	12
3	Rural Reporting	5
4	Tree Plantation	0.5 [per tree]
5	Participation in Relief Camps	20
6	Participation in Debate/Group Discussion/Tech Quiz	10
7	Publication of Wall Magazine in Institutional Level	10

# Cntd.

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# Cntd.

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Thank you