Maulana Abul Kalam Azad University of Technology West Bengal
BF 142, Sector I, Salt Lake, Kolkata – 700064

Adoption of Massive Open Online Courses (MOOCs) for B.Tech 8th semester students in the streams of Computer Science and Information Technology of all the affiliated Colleges as well as in-house departments of the University.

The University has decided to allow the B.Tech 8th semester students of the MAKAUT, WB family in the Computer Science & Engineering and Information Technology streams to opt for Massive Online Open Courses (MOOCS). This is in accordance with the initiatives taken by UGC and AICTE under the overall leadership of MHRD to encourage the adoption of these courses to facilitate the teaching-learning process and enhance the employability of the engineering graduates. This decision of the University will be particularly useful for the students of the CSE and IT streams who have been offered internships in industry during their 8th semester commencing from January, 2018 and will therefore be unable to attend regular class room courses during this semester. Adoption of MOOCS will enable the students to satisfy their course completion requirements including class attendance criteria without compromising on their employment demands.

In the B. Tech. (8th Semester) CSE & IT streams there are three theory (Elective) papers , one practical paper, one Project paper and Grand Viva i.e a total of six papers and students of the University may choose *any of the following three options* in the semester commencing in January 2018:

(a) Students can follow regular class room courses for all the papers prescribed in MAKAUT,WB syllabus (as in the current system)

<div align="center">OR</div>

(b) Students can opt for courses under MOOCS for three theory papers and the practical paper of the 8th semester in lieu of regular class room courses

<div align="center">OR</div>

(c) Students can opt for mixture of class room and MOOCS courses so as to cover three theory papers and the practical paper

Thus there would be three categories of students in the CSE and IT streams of the B.Tech 8th semester for the January 2018 even semester corresponding to the three possible options listed above:

(a) Students opting for regular class room courses as per MAKAUT, WB curriculum
(b) Students fully opting for courses under MOOCS (those who have received offer for internship in companies during their 8th semester)
(c) Students opting for a mixture of regular class room and MOOCS courses.

The following points may be carefully noted in connection with adoption of MOOCS -
(i) Students willing to undertake MOOCs will have to formally apply to the respective College/Institute for necessary approval
(ii) Subject teacher (Mentor) will facilitate academic interaction with students in the College
(iii) Lecture sessions and tutorial classes for each online course under MOOCs must be displayed in the class routine
(iv) The faculty members are encouraged to enrol for MOOCs along with the students for better grasp of the subject and complete understanding of the process from end to end.

The University has drawn up a mapping between the B.Tech 8th semester courses (for CSE and IT streams) of MAKAUT, WB and those offered under NPTEL (MOOCs) after consultation with

academicians from the CSE /IT disciplines and IT industry representatives. This mapping is displayed in the following table:

Mapping between MAKAUT,WB and NPTEL courses (8th Semester)		
Theory Papers	MAKAUT courses (X)	Corresponding MOOCs from NPTEL (Y) https://onlinecourses.nptel.ac.in
Elective 1	A. Organizational Behaviour B. Project Management	A. Project Management 12 weeks course
Elective 2	A. Advanced Computer Architecture B. Parallel Computing C. Natural Language Processing D. Cryptography & Network Security E. Business Analytics	A. Cryptography & Network Security B. Social Network C. Introduction to Internet of Things D. Introduction to Machine Learning 12 weeks course
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 8 weeks course
One course is to be chosen from each of the Electives 1, 2 and 3 from any of the columns X or Y		
Practical Papers		
	Design Lab	http://spoken-tutorial.org
Project & Viva		
	Project – 2	To be carried out at respective companies
	Grand Viva	To be carried out at respective institutes

Table 1: The mapping between the B.Tech 8th semester courses as per MAKAUT, WB curriculum (for the CSE and IT streams) and those offered under NPTEL is shown. The theory and practical papers are shown separately.

The enrolment and course dates for the different theory courses under MOOCs are shown in the following Table 2.

A. Cryptography & Network Security	Enrolment duration –
B. Social Network	Nov 15, 2017 to Jan 22, 2018 (start of course)
C. Introduction to Internet of Things	Duration of course – Jan 22 to April 13, 2018
D. Introduction to Machine Learning	No maximum limit on the number of enrolments
A. Wireless Adhoc and Sensor Network	Enrolment duration –
B. Data Mining	Nov 15, 2017 to Feb 5, 2018 (start of course)
C. Advanced Graph Theory	Duration of course – Feb 5 to March 30, 2018
D. Introduction to Modern Application Development	No maximum limit on the number of enrolments
Exam dates for all courses – April 28/29, 2018	

Table 2: The enrolment and course durations of the different NPTEL courses to which the regular courses under the MAKAUT, WB curriculum are mapped.

The following observations are made in respect of the Practical Paper.

The students pursuing their curriculum through MOOCs may complete the course requirements for the **Design Lab** of the 8th semester by choosing any three topics from among the following and obtaining the necessary certification from **http://spoken-tutorial.org/**

1. C and C++ ; Basic and Intermediate Levels
2. Advanced C++
3. Java and Netbeans
4. Java Business Application
5. PHP & MySQL
6. Python
7. Scilab
8. Linux and Ubuntu

In connection with the completion of the course requirements of the Project – 2, the following points are to be noted –

(a) MOOCs students undergoing internship in companies during 8th semester will carry out projects under the supervision of their respective companies.
(b) The final evaluation of student's performance will be done by the company's supervisors and will be intimated to respective internal guides of the College.
(c) Students would be required to attend the final project presentation before external examiners at the end of the semester in their respective Colleges.

All students including those undergoing internship will have to appear and qualify in the Grand Viva conducted by their respective departments of the college at the end of the 8th semester.

The following points are to be noted regarding Class Attendance of the students in the B.Tech 8th semester (CSE and IT streams):
(i) Students opting for Regular Classroom based courses are to gain attendance by regularly attending classroom sessions in their colleges.
(i) Students opting for mixture of Regular Classroom based courses and MOOCs Online courses are to be present in college and attend all the assigned periods in the time table for courses in both classroom and MOOCs.
(ii) Students undergoing Internship thereby fully opting for MOOCs are to bring their attendance records from their respective companies.
(iii) Projects completed by the student interns in their respective companies will be considered for submission to the respective Colleges as their B.Tech projects.

Credit Transfer

➢ B. Tech 8th semester students opting fully for MOOCs courses will not have to appear for any internal examination of the 8th semester theory papers but have to submit the MOOCs assignment completion documents.
➢ They will also not have to appear for the end semester examinations of the B. Tech 8th Semester Theory papers but have to submit the final result obtained from MOOCs.
➢ Students will have to submit to their respective colleges the certificates obtained from NPTEL after completion of continuous assessments and end course evaluation
➢ For practical papers the students have to submit the certification obtained from http://spoken-tutorial.org

For other streams the university may issue similar notices in subsequent semesters

Notice

24th January, 2019

MOOCs for B.Tech Honours
(Applicable from the session 2018-2019)

Preamble

All India Council for Technical Education (AICTE) has introduced Model Curriculum for Bachelor of Technology programme with 160 credits in the entire programme of 4 years, and additional 20 credits will be required to be done for the degree of Bachelor of Technology with Honours. These additional 20 credits will have to be acquired with online courses (MOOCs) as per AICTE. So students will have to complete additional 20 credits through MOOCs within 4 years of time. This creates an excellent opportunity for students to acquire the necessary skill set for employability through massive online courses where the rare expertise of world famous experts from academics and industry are available. Maulana Abul Kalam Azad University of Technology, West Bengal (MAKAUT,WB) has thus decided to introduce AICTE model curriculum for its B.Tech Programmes and suggest baskets for MOOCs available year wise for the four-year long B.Tech programme from the sessions 2018-2019. The basket for MOOCs will be a dynamic one, as courses keep on updating with time.

The total of 20 credits that is required to be attained for B.Tech Honours degree is distributed over four years in the following way:

For first year: 8 credits
For second year: 4 credits
For third year: 4 credits
For fourth year: 4 credits

A student of first year has to cover courses from at least three skills:

1. Computer Programing with Python / R
2. Soft skill
3. Ethics

If a student is unable to cover the credits assigned for the first year, he/she can do these courses in either of the subsequent years, but he/she has to choose the courses from the basket of MOOCs announced by MAKAUT,WB from time to time. The same rule will be applicable for the other years of the programme.

The updated basket for MOOCs for the 1st year B. Tech for the session 2018-2019 is made available herewith.

MOOC for First Year, Engineering and Technology

Sl. No.	Module	Course	Provider	Duration	Credits	Name of University / Institute	Status
1.	Ethics	Ethics in Engineering Practice	NPTEL	8 weeks	3	IIT Kharagpur	Active
2		Ethics	NPTEL	12 weeks	4		Active
3		Ethics and Law in Data and Analytics	edX	Self Paced	4	Microsoft	Active
4		A Life of Happiness and Fulfillment	Coursera	6 weeeks	2	Indian School of Business	Active
5		Introduction to Philosophy	Coursera	5 weeks	1	University of Edinburgh	Active
6		Introduction to Philosophy: God, Knowledge, and Consciousness	edX	12 weeks	4	MIT	Active
7		Ethical Leadership Through Giving Voice	Coursera	4 weeks	2	University of Virginia	Active
8	Soft Skills	Better Spoken English	NPTEL	12 week	4	IIT Madras	Active
9		English language for Competitive exams	NPTEL	12 week	4	IIT Madras	Active
10		Employment Communication A Lab based course	NPTEL	12 week	4	IIT Kharagpur	Active
11		Enhancing Soft Skills and Personality	NPTEL	8 weeks	3	IIT Kanpur	Active
12		Problem solving through Programming In C	NPTEL	8 weeks	3	IIT Kharagpur	Active
13		Speak English Professionally: In Person, Online & On the Phone	Coursera	4 weeks	1	Georgia Tech	Active
14		Psychology at Work	Coursera	6 weeks	2	University of Western Australia	Active
15		Communication in the 21st Century Workplace	Coursera	4 weeks	1	University of California	Active
16		Successful Career Development	Coursera	7 weeks	2	University System of Georgia	Active
17		Working in Teams: A Practical Guide	edX	4 weeks	1	University of Queensland	Active
18		Communication theory: bridging academia and practice	Coursera	9 weeks	3	Higher School of Economics	Active
19		Speaking Effectively	NPTEL	8 weeks	3	Indian Institute of Technology, Kharagpur	Active
20		Write Professional Emails in English	Coursera	5 weeks	2	Georgia Institute of Technology	Active
21		Technical Writing	Coursera	5 weeks	1	Moscow Institute of Physics and Technology	Active
22		Creating Innovation	Coursera	6 weeks	2	Macquarie University	Active
23		Interpersonal Communication for	Coursera	4 weeks	1	Rice University	Active

		Engineering Leaders					
24		Creating Innovation	Coursera	6 weeks	2	Macquarie University	Active
25		Take Your English Communication Skills to the Next Level	Coursera	4 weeks	1	Georgia Institute ofTechnology	Active
26		Grammar and Punctuation	Coursera	4 weeks	1	University of California	Active
27		How to Write an Essay	Coursera	5 weeks	1	University of California,Berkeley	Active
28		Conversational English Skills	edX	10 weeks	3	Tsinghua University	Active
29		Advanced Writing	Coursera	4 weeks	1	University of California,Irvine	Active
30		Speak English Professionally: In Person,Online & On the Phone	Coursera	5 weeks	1	Georgia Institute ofTechnology	Active
31		English for Science, Technology,Engineering, and Mathematics	Coursera	5 weeks	1	University of Pennsylvania	Active
32		English Composition	edX	8 weeks	3	Arizona State University	Active
33		Soft skills	NPTEL	12 Weeks	4	IIT Roorkee	Active
34		Presentation Skills: Designing Presentation Slides	Coursera	4 weeks	1	Tomsk State University	Active
35	Programming skills	Introduction to Programming with MATLAB	Courseera	9 weeks	3	Vanderbilt University	Active
36		Programming In C++	NPTEL	8 weeks	3	IIT Kharagpur	Active
37		Learn to Program: The Fundamentals	Coursera	7 weeks	2	University of Toronto	Active
38		Introduction to computer Science	edx	4-5 weeks	2	Microsoft	Active
39		Introduction to Computer Science and Programming Using Python	edX	Self Paced	4	MIT, USA	Active
40		Statistics and R	edX	Self Paced	4	Harvard University	Active
41		Introduction to Programming in C	Coursera	4 weeks	4	Duke University	Active
42		Java Programming: Solving Problems with Software	Coursera	4 weeks	4	Duke University	Active
43		Java Fundamentals for Android Development	edX	6 weeks	2	GalileoX	Active
44		Responsive Website Basics: Code with HTML, CSS, and JavaScript	Courseera	4 weeks	1	University of London Microsoft	Active
45		Introduction to HTML5	Coursera	3 weeks	1	University of Michigan	Active
46		HTML5 Coding Essentials and Best Practices	edX	6 weeks	2	W3C	Active
47		Android App Development for Beginners	edX	6 weeks	2	GalileoX	Active

No.	Category	Course Name	Platform	Duration	Credits	University	Status
48		Problem solving through Programming In C	NPTEL	12 Weeks	4	IIT Kharagpur	Active
49		Joy of computing using Python	NPTEL	12 Weeks	4	IIT Ropar	Active
50		Foundation of Data Structures	edX	6 weeks	2	IIT Bombay	Active
51		Learn to Program: The Fundamentals	Coursera	7 weeks	3	University of Toronto	Active
52		Web Design for Everybody (Basics of Web Development and Coding) Specialization	Coursera	15weeks	4	University of Michigan	Active
53		Programming Basics	edX	9 weeks	3	IIT Bombay	Active
54	Statistics	Inferential Statistics	Coursera	7 weeks	2	University of Amsterdam	Active
55		Linear Regression and Modelling	Coursera	4 weeks	1	Duke University	Active
56		Essential Statistics for Data Analysis using Excel	edX	Self Paced	3	Microsoft	Active
57		The Science of Well Being	Coursera	6 weeks	2	Yale University	Active
58		Ecology: Ecosystem Dynamics and Conservation	Coursera	5 weeks	1	American Museum of Natural History, Howard Hughes Medical Institute	Active
59	Environmental Studies	Environmental Studies: A Global Perspective	edX	Self Paced	4	Curtin University	Active
60		Science, Technology and Society	NPTEL	12 weeks	4		
61		Effective Problem-Solving and Decision- Making	Coursera	4 weeks	1	University of California	Active
62		Critical Thinking & Problem Solving	edX	3 weeks	3	Rochester Institute of Technology	Active
63		Moralities of Everyday Life	Coursera	6 weeks	2	Yale University	Active
64		Introduction to Logic	Coursera	10 weeks	3	Stanford University	Active
65	Others	The Science of Everyday Thinking	edX	12 weeks	4	University of Queensland	Active
66		Digital Security and Human Rights	edx	3 weeks	1	Amnesty InternationalX	Active
	Archived Courses for the Session(January-June, 2019)						
67		Developing Soft Skills and Personality	NPTEL	8 weeks	3	IIT Kanpur	Archived
68		Indian Fiction in English	NPTEL	12 weeks	4	IIT Madras	Archived
69		Development of Sociology in India	NPTEL	4 Weeks	1	IIT Kanpur	Archived
70		Introduction to Logic	NPTEL	12 weeks	4	IIT Kanpur	Archived
71		Developing Soft Skills and Personality	NPTEL	8 weeks	3	IIT Kanpur	Archived
72		Introduction to Problem Solving and Programming	NPTEL	12 weeks	4	IIT Kanpur	Archived

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL

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	Ethics and Law in Data and Analytics	edX	Self Paced	4	Microsoft	Active
	A Life of Happiness and Fulfillment	Coursera	6 weeks	2	Indian School of Business	Active
	Introduction to Philosophy	Coursera	5 weeks	1	University of Edinburgh	Active
	Ethical Leadership Through Giving Voice	Coursera	4 weeks	2	University of Virginia	Active
	Ethics in Engineering Practice	NPTEL	8 Weeks	3	IIT Kharagpur	Active
Soft Skills	Technical English for engineers	NPTEL	8 Weeks	3	IIT Madras	Active
	Body Language :Key to Professional Success	NPTEL	4 Weeks	1	IIT Ropar	Active
	Interpersonal Skills	NPTEL	4 Weeks	1	IIT Ropar	Active
	Psychology at Work	Coursera	6 weeks	2	University of Western Australia	Active
	Communication in the 21st Century Workplace	Coursera	4 weeks	1	University of California	Active
	Successful Career Development	Coursera	7 weeks	2	University System of Georgia	Active
	Working in Teams: A Practical Guide	edX	4 weeks	1	University of Queensland	Active
	Communication theory: bridging academia and practice	Coursera	9 weeks	3	Higher School of Economics	Active
	Write Professional Emails in English	Coursera	5 weeks	2	Georgia Institute of Technology	Active
	Technical Writing	Coursera	5 weeks	1	Moscow Institute of Physics and Technology	Active
	Interpersonal Communication for Engineering Leaders	Coursera	4 weeks	1	Rice University	Active
Programming Skills	Introduction to Programming with MATLAB	Courseera	9 weeks	3	Vanderbilt University	Active
	Programming In C++	NPTEL	8 weeks	3	IIT Kharagpur	Active

	Course	Platform	Duration	Credits	Institution	Status
	An Introduction to Programming Through C++	NPTEL	12 weeks	4	IIT Bombay	Active
	Learn to Program: The Fundamentals	Coursera	7 weeks	2	University of Toronto	Active
	Introduction to computer Science	edx	4-5 weeks	2	Microsoft	Active
	Introduction to Computer Science and Programming Using Python	edX	Self Paced	4	MIT, USA	Active
	Statistics and R	edX	Self Paced	4	Harvard University	Active
	Introduction to Programming in C	Coursera	4 weeks	4	Duke University	Active
	Java Programming: Solving Problems with Software	Coursera	4 weeks	4	Duke University	Active
	Responsive Website Basics: Code with HTML, CSS, and JavaScript	Courseera	4 weeks	1	University of London Microsoft	Active
	Introduction to HTML5	Coursera	3 weeks	1	University of Michigan	Active
	HTML5 Coding Essentials and Best Practices	edX	6 weeks	2	W3C	Active
	Android App Development for Beginners	edX	6 weeks	2	GalileoX	Active

	Problem solving through Programming In C	NPTEL	12 Weeks	4	IIT Kharagpur	Active
	Joy of computing using Python	NPTEL	12 Weeks	4	IIT Ropar	Active
	Programming , Data Structures and Algorithm Using Python	NPTEL	8 Weeks	3	CMI	Active
	Foundation of DataStructures	edX	6 weeks	2	IIT Bombay	Active
	Learn to Program: TheFundamentals	Coursera	7 weeks	3	University of Toronto	Active
	Web Design for Everybody (Basics ofWeb Development and Coding)Specialization	Coursera	15weeks	4	University of Michigan	Active
	Programming Basics	edX	9 weeks	3	IIT Bombay	Active
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	Linear Regression andModelling	Coursera	4 weeks	1	Duke University	Active
	Essential Statistics for DataAnalysis using Excel	edX	SelfPaced	3	Microsoft	Active
Environmental Studies	The Science of Well Being	Coursera	6 weeks	2	Yale University	Active

	Ecology: Ecosystem Dynamics and Conservation	Coursera	5 weeks	1	American Museum of Natural History, HowardHughes Medical Institute	Active
	Effective Problem-Solvingand Decision-Making	Coursera	4 weeks	1	University ofCalifornia	Active
	Moralities of EverydayLife	Coursera	6 weeks	2	Yale University	Active
	Introduction to Logic	Coursera	10 weeks	3	Stanford University	Active
	The Science of EverydayThinking	edX	12 weeks	4	University ofQueensland	Active
	Digital Security and Human Rights	edx	3 weeks	1	AmnestyInternationalX	Active

Archived Courses for the Session(July-December, 2019)						
	Ethics	NPTEL	12 weeks	4		Active
	Introduction to Philosophy: God, Knowledge, andConsciousness	edX	12 weeks	4	MIT	Active
	Development of Sociologyin India	NPTEL	4 Weeks	1	IIT Kanpur	Archived
	Introduction to Logic	NPTEL	12 weeks	4	IIT Kanpur	Archived
	Introduction to ProblemSolving and Programming	NPTEL	12 weeks	4	IIT Kanpur	Archived
	Better Spoken English	NPTEL	12 week	4	IIT Madras	Active
	English language for Competitive exams	NPTEL	12 week	4	IIT Madras	Active
	Employment Communication A Labbased course	NPTEL	12 week	4	IIT Kharagpur	Active
	Enhancing Soft Skills and Personality	NPTEL	8 weeks	3	IIT Kanpur	Active
	Speak EnglishProfessionally: In Person, Online & On the Phone	Course era	4 weeks	1	Georgia Tech	Active
	Speaking Effectively	NPTEL	8 weeks	3	Indian Institute ofTechnology, Kharagpur	Active
	Java Fundamentals for Android Development	edX	6 weeks	2	GalileoX	Active
	Environmental Studies: A Global Perspective	edX	Self Paced	4	Curtin University	Active
	Science, Technology andSociety	NPTEL	12 weeks	4		
	Critical Thinking &Problem Solving	edX	3 weeks	3	Rochester Institute of Technology	Active