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(Revised)

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)

OR

(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

OR

(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). This mapping is displayed in the following Table 1A and 1B. The theory and practical papers are shown separately.

Mapping between MAKAUT,WB (8th Semester, CSE) and NPTEL courses		
Theory Papers	MAKAUT,WB 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 1A: The mapping between the B.Tech 8th semester CSE courses as per MAKAUT, WB curriculum and those offered under NPTEL is shown.

Mapping between MAKAUT,WB (8th Semester, IT) and NPTEL courses		
Theory Papers	MAKAUT,WB 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	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. Business Analytics 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 1B: The mapping between the B.Tech 8th semester IT courses as per MAKAUT, WB curriculum and those offered under NPTEL is shown.

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 this semester commencing from January, 2018 the students who have opted for MOOCs courses may also appear for end semester examination from MAKAUT,WB in the papers they are studying under MOOCs. So for them the internal marks will be from the MOOCs. The external marks will be form the MOOCs or from the MAKAUT,WB examination.

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