



Maulana Abul Kalam Azad University of Technology, West Bengal

Syllabus for 4-Years B.Tech. in Information Technology

COURSE CURRICULUM

CURRICULUM STRUCTURE

Semester I (First Year)							
Mandatory Induction Program: Duration-3 weeks							
Sl. No.	Type of course	Code	Course Title	Hours per week			Credits
				Lecture	Tutorial	Practical	
Theory							
1	Basic Science Course	BS-PH101/ BS-CH101	Physics-I (Gr-A)/ Chemistry-I(Gr-B)	3	1	0	4
2	Basic Science Course	BS-M101/ BS-M102	Mathematics –IA*/ Mathematics –IB *	3	1	0	4
3	Engineering Science Course	ES-EE101	Basic Electrical Engineering	3	1	0	4
Practical							
1	Basic Science Course	BS-PH191/ BS-CH191	Physics-I Laboratory (Gr-A)/ Chemistry-I Laboratory (Gr-B)	0	0	3	1.5
2	Engineering Science Course	ES-EE191	Basic Electrical Engineering Laboratory	0	0	2	1
3	Engineering Science Course	ES-ME191/ ES-ME192	Engineering Graphics & Design(Gr-B)/ Workshop/Manufacturing Practices(Gr-A)	1	0	4	3
Total Credits: 17.5							
* Mathematics –IA (BS-M101) - CSE & IT							
* Mathematics –IB (BS-M102) - All stream except CSE & IT							
Group A				Group B			
Physics-I (BS-PH101); Workshop/Manufacturing Practices (ES-ME192)				Chemistry-I (BS-CH101); Engineering Graphics & Design (ES-ME191)			

Semester II (First Year)							
Sl. No.	Type of course	Code	Course Title	Hours per week			Credits
				Lecture	Tutorial	Practical	
Theory							
1	Basic Science Course	BS-PH201/ BS-CH201	Physics-I (Gr-B)/ Chemistry-I (Gr-A)	3	1	0	4
2	Basic Science Course	BS-M201/ BS-M202	Mathematics –IIA# / Mathematics –IIB#	3	1	0	4
3	Engineering Science Course	ES-CS201	Programming for Problem Solving	3	0	0	3
4	Humanities and Social Sciences including Management Courses	HM-HU201	English	2	0	0	2
Practical							
1	Basic Science	BS-PH291/	Physics-I Laboratory (Gr-	0	0	3	1.5



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	Course	BS-CH291	B)/ Chemistry-I Laboratory (Gr-A)				
2	Engineering Science Course	ES-CS291	Programming for Problem Solving	0	0	4	2
3	Engineering Science Course	ES-ME291/ ES-ME292	Engineering Graphics & Design(Gr-A)/ Workshop/Manufacturing Practices(Gr-B)	1	0	4	3
4	Humanities and Social Sciences including Management Courses	HM-HU291	Language Laboratory	0	0	2	1
Total Credits: 20.5							
# Mathematics –II (BS-M201) - CSE & IT							
# Mathematics –II (BS-M202) - All stream except CSE & IT							
Group A				Group B			
Chemistry-I (BS-CH201); Engineering Graphics & Design (ES-ME291)				Physics-I (BS-PH201); Workshop/Manufacturing Practices (ES-ME292)			

Semester III (Second Year)							
Sl. No.	Type of course	Code	Course Title	Hours per week			Credits
				Lecture	Tutorial	Practical	
Theory							
1	Engineering Science Course	ESC-301	Digital Electronics	3	0	0	3
2	Professional Core Courses	PCC-IT301	Data Structure & Algorithms	3	0	0	3
3	Engineering Science Course	ESC 302	Signals & System	3	0	0	3
4	Basic Science course	BSC-301	Mathematics- III	2	0	0	2
5	Basic Science course	BSC-302	Biology	3	0	0	3
Practical							
1	Engineering Science Course	ESC-391	Digital Electronics Lab	0	0	4	2
2	Professional Core Courses	PCC-IT391	Data Structure & Algorithms Lab	0	0	4	2
3	Professional Core Courses	PCC-IT302	IT Workshop (Sci-Lab/ R)	0	0	4	2
Total Credits: 20							



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Semester IV (Second Year)							
Sl. No	Type of course	Code	Course Title	Hours per week			Credits
				Lecture	Tutorial	Practical	
Theory							
1	Professional Core Courses	PCC-IT401	Discrete Mathematics	3	1	0	4
2	Professional Core Course	PCC-IT402	Computer Organization & Architecture	3	0	0	3
3	Professional Core Courses	PCC-IT403	Formal Language & Automata Theory	3	0	0	3
4	Professional Core Courses	PCC-IT404	Communication Engineering	3	0	0	3
5	Humanities & Social Sciences including Management courses	HSMC-401	Economics For Engineers	3	0	0	3
6	Mandatory Courses	MC-401	Environmental Sciences	1	-	-	0
Practical							
1	Professional Core Course	PCC-IT492	Computer Organization & Architecture Lab	0	0	4	2
2	Professional Core Courses	PCC-IT494	Communication Engineering Lab	0	0	4	2
Total Credits: 20							

Semester V (Third Year)							
Sl. No.	Type of course	Code	Course Title	Hours per week			Credits
				Lecture	Tutorial	Practical	
Theory							
1	Professional Core Courses	PCC-IT501	Design Analysis & Algorithm	3	0	0	3
2	Professional Core Courses	PCC-IT502	DBMS	3	0	0	3
3	Professional Core Courses	PCC-IT503	Operating Systems	3	0	0	3
4	Professional Core Courses	PCC-IT504	Object Oriented Programming with Python	2	0	0	2
5	Humanities & Social Sciences including Management Courses	HSMC-501	Introduction to Industrial Management (Humanities III)	3	0	0	3
6	Professional Elective Courses	PEC-IT501	(Elective-I) Human Computer Interaction/ Advanced Computer Architecture/ Computer Graphics	3	0	0	3
7	Mandatory Courses	MC-IT501	Constitution of India/ Essence of	-	-	-	1



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		Indian Knowledge Tradition					
Practical							
1	Professional Core Courses	PCC-IT591	Design Analysis & Algorithm Lab	0	0	4	2
2	Professional Core Courses	PCC-IT592	DBMS Lab	0	0	4	2
3	Professional Core Courses	PCC-IT593	Operating Systems Lab	0	0	4	2
4	Professional Core Courses	PCC-IT594	Object Oriented Programming with Python Lab	0	0	4	2
Total Credits: 26							

Semester VI (Third Year)							
Sl. No.	Type of course	Code	Course Title	Hours per week			Credits
				Lecture	Tutorial	Practical	
Theory							
1	Professional Core Courses	PCC-IT601	Software Engineering	3	0	0	3
2	Professional Core Courses	PCC-IT602	Computer Networks	3	0	0	3
3	Professional Elective Courses	PEC-IT601	(Elective-II) Compiler Design/ Distributed Systems/ Image Processing	3	0	0	3
4	Professional Elective Courses	PEC-IT602	(Elective-III) Artificial Intelligence/ Internet of Things/ Natural Language Processing/ Machine Learning	3	0	0	3
5	Open Elective Courses	OEC-IT601	(Open Elective-I) Big Data Analytics/ Cyber Law & Ethics/ Mobile Computing/ Bioinformatics/ Robotics	3	0	0	3
Practical							
1	Professional Core Courses	PCC-IT691	Software Engineering Lab	0	0	4	2
2	Professional Core Courses	PCC-IT692	Computer Networks Lab	0	0	4	2
3	Professional Elective Courses	PEC-IT691	(Elective-II) Compiler Design/ Distributed Systems/ Image Processing	0	0	4	2
4	Project	PROJ-IT601	Project-I	0	0	6	3
Total Credits: 24							



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Semester VII (Fourth Year)							
Sl. No.	Type of Course	Code	Course Title	Hours per week			Credits
				Lecture	Tutorial	Practical	
Theory							
1	Professional Core Courses	PCC-IT701	Internet & Web Technology (Elective-V)	3	0	0	3
2	Professional Elective Courses	PEC-IT702	Multimedia Technology/ Information Theory and Coding/ Cyber Security/ Cloud Computing	3	0	0	3
3	Open Elective Courses	OEC-IT701	(Open Elective-II) Operations Research/ Introduction to Philosophical Thoughts/ Soft Skill & Interpersonal Communication/ Numerical Methods	3	0	0	3
4	Humanities & Social Sciences including Management courses	HSMC-701	Management 1 (Organizational Behavior)	3	0	0	3
Practical							
1	Project	PROJ-IT701	Project-II	0	0	12	6
Total Credits: 18							

Semester VIII (Fourth Year)							
Sl. No.	Type of course	Code	Course Title	Hours per week			Credits
				Lecture	Tutorial	Practical	
Theory							
1	Professional Core Courses	PCC-IT801	Information Security	3	0	0	3
2	Open Elective Courses	OEC-IT801	(Open Elective-III) Digital Signal Processing/ Natural Language Processing	3	0	0	3
3	Open Elective Courses	OEC-IT802	(Open Elective-IV) E-Commerce and ERP/ Economic Policies in India/ Remote Sensing & GIS	3	0	0	3
Practical							
1	Project	PROJ-IT801	Project-III	0	0	12	6
Total Credits: 15							