Maulana Abul Kalam Azad University of Technology, West Bengal
(Formerly West Bengal University of Technology)
Syllabus for B. Tech in Computer Science and Engineering
(Internet of Things,Cyber Security including Block Chain Technology)
(Applicable from the academic session 2020-2021)

Curriculum Structure
First Year First Semester

Mandatory Induction Program- 3 week's duration

Sl No.	Category	Subject Code	Subject Name	Total Number of Contact hours			Credits
				L	T	P	
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 Courses	ES-EE101	Basic Electrical Engineering	3	1	0	4
		Total Theory		9	3	0	12
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 Courses	ES-EE191	Basic Electrical Engineering Laboratory	0	0	2	1
3	Engineering Science Courses	ES-ME191/ ES-ME192	Engineering Graphics & Design(Gr-B)/ Workshop/Manufacturing Practices(Gr-A)	1	0	4	3
		Total Practical		1	3	9	5.5
		Total credit for First Semester		10	3	9	17.5

* Mathematics –IA (BS-M101) - CSE, IT, AI&ML and DS
Mathematics –IB (BS-M102) - All stream except CSE, IT, AI&ML and DS

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Sl No.	Category	Subject Code	Subject Name	Total Number of Contact hours			Credits
				L	T	P	
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 Courses	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
		Total Theory		11	2	0	13
Practical							
1	Basic Science courses	BS-PH291/ BS-CH291	Physics-I Laboratory (Gr-B)/ Chemistry-I Laboratory (Gr-A)	0	0	3	1.5
2	Engineering Science Courses	ES-CS291	Programming for Problem Solving	0	0	4	2
3	Engineering Science Courses	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 Practical		1	0	13	7.5
		Total of Second Semester		12	2	13	20.5

Mathematics –II (BS-M201) - CSE , IT, AI&ML and DS
Mathematics –II (BS-M202) - All stream except CSE, IT, AI&ML and DS

	Group-A	Group-B
1st Year 1st Semester	Physics-I (BS-PH101); Workshop/Manufacturing Practices (ES-ME192)	Chemistry-I (BS-CH101); Engineering Graphics & Design (ES-ME191)
1stYear 2nd Semester	Chemistry-I (BS-CH201); Engineering Graphics & Design (ES-ME291)	Physics-I (BS-PH201); Workshop/Manufacturing Practices (ES-ME292)

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Sl No		Type of Course	Code	Course Title	Hours per week			Credits
					L	T	P	
Semester III (Second year)								
1	THEORY	Engineering Science Course	ESC301	Analog and Digital Electronics	3	0	0	3
2		Professional Core Course	PCCCS301	Data Structure and Algorithms	3	0	0	3
3		Professional Core Course	PCCCS302	Computer Organization	3	0	0	3
4		Basic Science Course	BSCICB301	Linear Algebra	2	0	0	2
5		Humanities Social Science including Management Course	HSMC301	Economics for Engineers (Humanities II)	3	0	0	3
6	PRACTICAL	Professional Core Course	PCCCS391	Data Structure and Algorithms	0	0	4	2
7		Engineering Science Course	ESC391	Analog and Digital Electronics	0	0	4	2
8		Professional Core Course	PCCCS392	Computer Organization	0	0	4	2
9		Professional Core Course	PCCCS393	IT Workshop (Python/Matlab/R)	0	0	4	2
TOTAL CREDITS								22

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Semester IV (Second year)								
Sl No		Type of Course	Code	Course Title	Hours per week			Credits
					L	T	P	
1	THEORY	Professional Core Course	PCCCS401	Discrete Mathematics	3	0	0	3
2		Professional Core Course	PCCICB401	Data Communication and Networks	3	0	0	3
3		Professional Core Course	PCCCS403	Formal Language and Automata Theory	3	0	0	3
4		Professional Core Course	PCCCS404	Design and Analysis of Algorithm	3	0	0	3
5		Basic Science Course	BSC401	Biology	2	1	0	3
6		Mandatory Course	MC401	Environmental Science	2	0	0	2
7	PRACTICAL	Professional Core Course	PCCICB491	Data Communication and Networks Lab	0	0	4	2
8		Professional Core Course	PCCCS494	Design and Analysis of Algorithm Lab	0	0	4	2
TOTAL CREDITS								21

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SlNo		Type of Course	Code	Course Title	Hours per week			Credits
					L	T	P	
1	THEORY	Professional Core Course	PCCICB501	IoT Application and Design	3	0	0	3
2		Professional Core Course	PCCCS502	Operating System	3	0	0	3
3		Professional Core Course	PCCCS503	Object Oriented Programming	3	0	0	3
4		Professional Core Course	PCCICB502	Wireless Sensor Networks	3	0	0	3
5		Humanities and Social Sciences including Management	HSMC501	Introduction to Industrial Management	2	0	0	2
6		Professional Elective	PECICB501 (A/B/C)	Embedded System/ Internet Technology/ Smart Sensors and IoT	3	0	0	3
7	PRACTICAL	Professional Core Course	PCCICB591	IoT Application and Design Lab	0	0	4	2
8		Professional Core Course	PCCCS592	Operating System Lab	0	0	4	2
9		Professional Core Course	PCCICB593	Object Oriented Programming Lab	0	0	4	2
TOTAL CREDITS								23

Semester V (Third year)

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SlNo		Type of Course	Code	Course Title	Hours per week			Credits
					L	T	P	
1	THEORY	Professional Core Course	PCCICB601	Cryptography and Network Security	2	0	0	2
2		Professional Core Course	PCCCS601	Database Management System	3	0	0	3
3		Professional Core Course	PCCCS602	Ethical Hacking	3	0	0	3
4		ProfessionalElective	PECICB601 (A/B/C/D/E)	Cloud Computing/ Cyber law and'Cyber crime/ Steganography and Watermarking/ Software Engineering/ Digital Forensics	3	0	0	3
5		Open Elective	OECICB601 (A/B/C)	Human Resource Development and Organizational Behaviour/ Indian Music System/ Economic Policies in India	3	0	0	3
6	PRACTICAL	Professional Core Course	PCCCS691	Database Management System lab	0	0	4	2
7		Professional Elective Course	PECICB691	Lab based on PECICB601	0	0	4	2
8		Project-1	PROJ-681	Project-1	0	0	6	3
TOTAL CREDITS								21

Semester VI (Third year)

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SlNo		Type of Course	Code	Course Title	Hours per week			Credits
					L	T	P	
1	THEORY	Professional Elective Course	PECICB701 (A/B/C)	Blockchain and Cryptocurrency/ Social Network Analysis/Ecommerce and ERP	3	0	0	3
2		Professional Elective Course	PECICB702 (A/B/C)	Machine Learning/Information Theory and Coding/Cyber security in Block chain Technology	3	0	0	3
3		Open Elective Course	OECICB701 (A/B/C)	Soft skill and Interpersonal Communication/ Bio Informatics/ Business Analytics	3	0	0	3
4		Humanities and Social Sciences including Management	HSMC701	Project Management and Entrepreneurship	2	0	0	2
5		Project	PROJICB781	Project II	0	0	12	6
TOTAL CREDITS								17

Semester VII (Fourth year)

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SI No		Type of Course	Code	Course Title	Hours per week			Credits
					L	T	P	
1	THEORY	Professional Elective Course	PECICB801 (A/B/C)	Security Assessment and Risk Analysis/ Mobile Applications and Services/Deep Learning	3	0	0	3
2		Open Elective Course	OECICB801 (A/B/C)	Operations Research/ Remote Sensing and GIS/Digital Signal Processing	3	0	0	3
3		Open Elective Course	OECICB802 (A/B/C)	Numerical Methods/ Multimedia Technology/Introduction to Arts and Aesthetics	3	0	0	3
4		Sessional-1	PROJICB881	Project III	0	0	12	6
5		Sessional - 2	PROJICB882	Grand Viva				3
TOTAL CREDITS								18

Semester VIII (Fourth year) (table title above, spanning full width)