

**Maulana Abul Kalam Azad University of Technology, West Bengal**  
*(Formerly West Bengal University of Technology)*  
**Syllabus for B. Tech in Computer Science & Engineering**  
 (Applicable from the academic session 2018-2019)

**Curriculum Structure**

<b>Semester III (Second year)</b>							
Sl. No.	Type of course	Code	Course Title	Hours per week			Credits
				L	T	P	
<b>Theory</b>							
1	Engineering Science Course	ESC 301	Analog and Digital Electronics	3	0	0	3
2	Professional Core Courses	PCC-CS301	Data Structure & Algorithms	3	0	0	3
3	Professional Core Courses	PCC-CS302	Computer Organisation	3	0	0	3
4	Basic Science course	BSC 301	Mathematics-III (Differential Calculus)	2	0	0	2
5	Humanities & Social Sciences including Management courses	HSMC 301	Economics for Engineers (Humanities-II)	3	0	0	3
<b>Practical</b>							
6	Professional Core Courses	PCC-CS393	IT Workshop (Sci Lab/MATLAB/Python/R)	0	0	4	2
7	Engineering Science Course	ESC 301	Analog and Digital Electronics	0	0	4	2
8	Professional Core Courses	PCC-CS301	Data Structure & Algorithms	0	0	4	2
9	Professional Core Courses	PCC-CS302	Computer Organisation	0	0	4	2
						<b>Total credits</b>	<b>22</b>

<b>Semester IV (Second year)</b>							
Sl. No.	Type of course	Code	Course Title	Hours per week			Credits
				L	T	P	
<b>Theory</b>							
1	Professional Core Courses	PCC-CS401	Discrete Mathematics	3	1	0	4
2	Professional Core Courses	PCC-CS 402	Computer Architecture	3	0	0	3
3	Professional Core Courses	PCC-CS403	Formal Language & Automata Theory	3	0	0	3

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4	Professional Core Courses	PCC-CS404	Design & Analysis of Algorithms	3	0	0	3
5	Basic Science courses	BSC 401	Biology	2	1	0	3
6	Mandatory Courses	MC401	Environmental Sciences	1	-	-	1
<b>Practical</b>							
7	Engineering Science Course	PCC-CS 492	Computer Architecture	0	0	4	2
8	Professional Core Courses	PCC-CS494	Design & Analysis of Algorithms	0	0	4	2
						<b>Total credits</b>	<b>21</b>

<b>Semester V (Third year)</b>							
Sl. No.	Type of course	Code	Course Title	Hours per week			Credits
				L	T	P	
1	Engineering Science Course	ESC501	Signals & Systems	3	0	0	3
2	Professional Core Courses	PCC-CS501	Compiler Design	3	0	4	5
3	Professional Core Courses	PCC-CS502	Operating Systems	3	0	4	5
4	Professional Core Courses	PCC-CS503	Object Oriented Programming	2	0	4	4
5	Humanities & Social Sciences including Management courses	HSMC-501	Introduction to Industrial Management (Humanities III)	3	0	0	3
6	Professional Elective	PEC-CS501	(Elective-I) Theory of	3	0	0	3

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	courses		Computation/Artificial Intelligence/ Advanced Computer Architecture/ Computer Graphics				
7	Mandatory Courses	MC- CS501	Constitution of India/ Essence of Indian Knowledge Tradition	-	-	-	0
<b>Total credits</b>							<b>23</b>

<b>Semester VI (Third year)</b>							
Sl. No.	Type of course	Code	Course Title	Hours per week			Credits
				L	T	P	
1	Professional Core Courses	PCC-CS601	Database Management Systems	3	0	4	5
2	Professional Core Courses	PCC-CS602	Computer Networks	3	0	4	5
3	Professional Elective courses	PEC-CS601	(Elective-II)Advanced Algorithms/ Distributed Systems/Software Engineering/ Image Processing	3	0	0	3
4	Professional Elective courses	PEC-CS602	(Elective-III) Parallel and Distributed Algorithms/ Data Mining/Human Computer Interaction/Pattern Recognition	3	0	0	3
5	Open Elective courses	OEC-CS601	(Open Elective-) Numerical Methods/ Human Resource Development and Organizational Behavior	3	0	0	3
6	Project	PROJ-CS601	Project-1	0	0	6	3
<b>Total credits</b>							<b>22</b>

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<b>Semester VII (Fourth year)</b>							
Sl. No.	Type of course	Code	Course Title	Hours per week			Credits
				L	T	P	
1	Professional Elective courses	PEC-CS701	(Elective-IV) Quantum Computing/ Cloud Computing/ Digital Signal Processing/Multi-agent Intelligent Systems/Machine learning	3	0	0	3
2	Professional Elective courses	PEC-CS702	(Elective-V) Neural Networks and Deep Learning/Soft Computing/ Ad-Hoc and Sensor Networks/Information Theory and Coding/Cyber Security	3	0	0	3
3	Open Elective courses	OEC-CS701	(Open Elective-II) Operations Research/Multimedia Systems/Introduction to Philosophical Thoughts	3	0	0	3
4	Basic Science course	BSC 701	Biology	2	1	0	3
5	Project	PROJ-CS701	Project-II	0	0	12	6
<b>Total credits</b>							<b>18</b>

<b>Semester VIII (Fourth year)</b>							
<b>[Summer Industry Internship]</b>							
Sl. No.	Type of course	Code	Course Title	Hours per week			Credits
				L	T	P	
1	Professional Elective courses	PEC-CS801	(Elective-VI) Signals and Networks/Cryptography & Network Security/ Speech and Natural Language Processing/ Web and Internet Technology/Internet of Things	3	0	0	3
2	Open Elective courses	OEC-CS801	Open Elective-III Big Data Analysis/Cyber Law and Ethics/ Mobile Computing/Robotics/Soft Skill & Interpersonal Communication	3	0	0	3
3	Open Elective courses	OEC-CS802	(Open Elective-IV) E-Commerce and ERP/Micro-electronics	3	0	0	3

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			and VLSI Design/Economic Policies in India				
4	Project	PROJ- CS801	Project-III	0	0	12	6
						<b>Total credits</b>	<b>15</b>