

**Maulana Abul Kalam Azad University of Technology, West Bengal**  
(Formerly West Bengal University of Technology)

**Syllabus for B. Tech in Civil Engineering**  
(Applicable from the academic session 2018-2019)

**Curriculum Structure**  
**Semester III (Second year)**

Sl. No.	Category	Code	Course Title	Hours per week			Credits
				L	T	P	
<b>Theory</b>							
1	Basic Science courses	CE(BS)301	Biology for Engineers	2	1	0	3
2	Engineering Science Courses	CE(ES)301	Engineering Mechanics	3	1	0	4
3	Engineering Science Courses	CE(ES)302	Energy Science & Engineering	1	1	0	2
4	Basic Science courses	CE(BS)301	Mathematics-III (Transform & Discrete Mathematics)	2	0	0	2
5	Humanities and Social Sciences including Management courses	CE(HS)301	Humanities-I (Effective Technical Communication)	3	0	0	3
6	Humanities and Social Sciences including Management courses	CE(HS)302	Introduction to Civil Engineering	1	1	0	2
<b>Theory credits</b>							<b>16</b>
<b>Practical/ Sessional</b>							
1	Engineering Science Courses	CE(ES)391	Basic Electronics	1	0	2	2
2	Engineering Science Courses	CE(ES)392	Computer-aided Civil Engineering Drawing	1	0	2	2
3	Engineering Science Courses	CE(ES)393	Life Science	1	0	2	2
<b>Practical credits</b>							<b>6</b>
<b>Total credits</b>							<b>22</b>

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**Semester IV (Second year]**

Sl. No.	Category	Code	Course Title	Hours per week			Credits
				L	T	P	
<b>Theory</b>							
1	Engineering Science Courses	CE(ES)401	Introduction to Fluid Mechanics	2	0	0	2
2	Engineering Science Courses	CE(ES)402	Introduction to Solid Mechanics	2	0	0	2
3	Professional Core courses	CE(PC)401	Soil Mechanics – I	2	1	0	3
4	Professional Core courses	CE(PC)402	Environmental Engineering -I	2	1	0	3
5	Professional Core courses	CE(PC)403	Surveying & Geomatics	2	1	0	3
6	Professional Core courses	CE(PC)404	Concrete Technology	2	1	0	3
7	Humanities and Social Sciences including Management courses	CE(HS)401	Civil Engineering - Societal & Global Impact	2	0	0	2
8	Mandatory Courses (non-credit)	CE(MC)401	Management I (Organizational Behavior)	2	0	0	0
<b>Theory credits</b>							<b>18</b>
<b>Practical/ Sessional</b>							
1	Professional Core courses	CE(ES)491	Fluid Mechanics Laboratory	0	0	2	1
2	Professional Core courses	CE(ES)492	Solid Mechanics Laboratory	0	0	2	1
3	Professional Core courses	CE(ES)493	Engineering Geology Laboratory	0	0	2	1
4	Professional Core courses	CE(PC)493	Surveying & Geomatics	0	0	2	1
5	Professional Core courses	CE(PC)494	Concrete Technology Laboratory	0	0	2	1
<b>Practical credits</b>							<b>5</b>
<b>Total credits</b>							<b>23</b>

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**Semester V (Third year]**

Sl. No.	Category	Code	Course Title	Hours per week			Credits
				L	T	P	
<b>Theory</b>							
1	Professional Core courses	CE(PC)501	Design of RC Structures	2	1	0	3
2	Professional Core courses	CE(PC)502	Engineering Hydrology	2	1	0	3
3	Professional Core courses	CE(PC)503	Structural Analysis – I	2	1	0	3
4	Professional Core courses	CE(PC)504	Soil Mechanics – II	2	1	0	3
5	Professional Core courses	CE(PC)505	Environmental Engineering – II	2	1	0	3
6	Professional Core courses	CE(PC)506	Transportation Engineering	2	1	0	3
7	Mandatory courses (non-credit)	CE(MC)501	Constitution of India/ Essence of Indian Knowledge Tradition	-	-	-	0
<b>Theory credits</b>							<b>18</b>
<b>Practical/ Sessional</b>							
1	Professional core courses	CE(PC)591	RC Design Sessional	0	0	2	1
2	Professional core courses	CE(PC)594	Soil Mechanics Laboratory	0	0	2	1
3	Professional core courses	CE(PC)595	Environmental Engineering Laboratory	0	0	2	1
4	Professional core courses	CE(PC)596	Transportation Engineering Laboratory	0	0	2	1
5	Professional core courses	CE(PC)597	Computer Application in CE	0	0	2	1
<b>Practical credits</b>							<b>5</b>
<b>Total credits</b>							<b>23</b>

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**Semester VI (Third year]**

Sl. No.	Category	Code	Course Title	Hours per week			Credits
				L	T	P	
<b>Theory</b>							
1	Professional Core courses	CE(PC)601	Construction Engineering & Management	2	0	0	2
2	Professional Core courses	CE(PC)602	Engineering Economics, Estimation & Costing	2	0	0	2
3	Professional Core courses	CE(PC)603	Water Resources Engineering	2	0	0	2
4	Professional Core courses	CE(PC)604	Design of Steel Structures	2	0	0	2
5	Professional Elective courses	CE(PE)601	Elective-I	2	0	0	2
6	Professional Elective courses	CE(PE)602	Elective-II	2	0	0	2
7	Open Elective courses	CE(OE)601	Open Elective-I (Humanities)	2	0	0	2
<b>Theory credits</b>							<b>14</b>
<b>Practical/ Sessional</b>							
1	Professional Core courses	CE(PC)693	Water Resource Engineering Laboratory	0	0	2	1
2	Professional Core courses	CE(PC)694	Steel Structure Design Sessional	0	0	2	1
3	Professional Core courses	CE(PC)695	Quantity Survey Estimation and Valuation Sessional	0	1	2	2
<b>Practical credits</b>							<b>4</b>
<b>Total credits</b>							<b>18</b>

<b>CE(PE)601 (Elective-I)</b>	<b>CE(PE)602 (Elective-II)</b>
601A: Stability of Slopes 601B: <b>Foundation Engineering</b> 601C: Ground Improvement Technique	602A : Building Construction Practice 602B : <b>Structural Analysis-II</b> 602C : Industrial Structures
<b>CE(OE)601 (Open Elective-I)</b>	
601A: Soft Skills and Interpersonal Communication – I 601B: Introduction to Philosophical Thoughts	

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**Semester VII (Fourth year]**

Sl. No.	Category	Code	Course Title	Hours per week			Credits
				L	T	P	
<b>Theory</b>							
1	Open Elective courses	CE(OE)701	Open Elective-II	2	0	0	2
2	Professional Elective courses	CE(PE)701	Elective III	2	1	0	3
3	Professional Elective courses	CE(PE)702	Elective IV	2	1	0	3
4	Professional Elective courses	CE(PE)703	Elective V	2	1	0	3
5	Professional Elective courses	CE(PE)704	Elective-VI	2	1	0	3
6	Professional Elective courses	CE(PE)705	Elective-VII	2	0	0	2
<b>Theory credits</b>							<b>16</b>
<b>Practical/ Sessional</b>							
1	Internship	CE(IN)791	Industrial Internship (after sixth semester)				1
2	Project	CE(PROJ)792	Project-1 (Project work)	0	0	10	5
<b>Practical credits</b>							<b>6</b>
<b>Total credits</b>							<b>22</b>

<b>CE(OE)701 (Open Elective-II)</b>	<b>CE(PE)701 (Elective-III)</b>
A: Metro Systems & Engineering	701A: Computational Hydraulics
B: ICT for Development	701B: Disaster Preparedness and Planning
C: Cyber Law & Ethics	701C: Hydraulic Structure
<b>CE(PE)702 (Elective-IV)</b>	<b>CE(PE)703 (Elective-V)</b>
702A: Prestressed Concrete	703A: Air and Noise Pollution and Control
702B: Repairs & Rehabilitation of Structures	703B: Physico-Chemical Processes for Water and Wastewater Treatment
702C: Finite Element Method	703C: Water and Air Quality Modelling
<b>CE(PE)704 (Elective-VI)</b>	<b>CE(PE)705 (Elective-VII)</b>
704A: Structural Dynamics	705A: Railway and Airport Engineering
704B: Advanced Structural Analysis	705B: Pavement Design
704C: Coastal Hydraulics and Sediment Transport	705C: Transport System Planning

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**Semester VIII (Fourth year]**

Sl. No.	Category	Code	Course Title	Hours per week			Credits
				L	T	P	
<b>Theory</b>							
1	Humanities and Social Sciences including Management courses	CE(HS)801	Professional Practice, law & Ethics	2	0	0	2
2	Professional Elective Courses	CE(PE)801	Elective VIII	2	0	0	2
3	Open Elective courses	CE(OE)801	Open Elective-III	2	0	0	2
4	Open Elective courses	CE(OE)802	Open Elective-IV	2	0	2	2
<b>Theory credits</b>							<b>8</b>
<b>Practical/ Sessional</b>							
1	Comprehensive Viva Voce	CE(CV)882	Comprehensive Viva Voce				1
2	Project	CE(PROJ)881	Project-2 (Continued from VII)	0	0	10	5
<b>Practical credits</b>							<b>6</b>
<b>Total credits</b>							<b>14</b>
<b>CE(PE)801 (Elective-VIII)</b>							
801A: GIS & Remote Sensing 801B: Rock Mechanics 801C: Environmental laws and Policy 801D: Pavement Materials and Design							
<b>CE(OE)801 (Open Elective-III)</b>				<b>CE(OE)802 (Open Elective-IV)</b>			
A: Human Resource Development and Organizational Behavior <b>B: Bridge Engineering</b> C: Deep Foundations D: Groundwater Contamination				A: Soft Skills and Personality Development B: Earthquake Engineering C: Urban Transport Planning D: Environmental Impact Assessment and Life cycle Analysis			

**TOTAL CREDITS – [38 +(22+23)+(23+18)+(21+15)]=160**

SEM 1 & SEM 2	SEM3	SEM4	SEM5	SEM6	SEM7	SEM8	Total
38	22	23	23	18	21	15	160