



New Syllabus Outline Structure

For

B.Tech in Civil Engineering

Effective from Academic Year 2023

DEPARTMENT OF CIVIL ENGINEERING

3RD SEMESTER

Sl. No.	Category	Code	Course Title	Hours per week			Total contact hours	Credits
Theory Papers				L	T	P		
1	BSM	BSM301	Mathematics - III	2	1	0	3	3
2	CSD	CSD015	Data Structure & Algorithm using Python	3	0	0	3	3
3	PCC	CEC301	Surveying-I	3	0	0	3	3
4	PCC	CEC302	Solid Mechanics	3	0	0	3	3
5	PCC	CEC303	Energy Science and Engineering	1	1	0	2	2
6	PCC	CEC304	Engineering Geology	1	0	0	1	1
7	PCC	CEC305	Building Materials and Construction	3	0	0	3	3
8	HSMC	BTHESP301	Essentials Studies for Professionals – III	2	0	0	2	0.5
Practical / Sessional Papers								
9	CSD	CSD095	Data Structure & Algorithm using Python Lab	0	0	2	2	1
10	PCC	CEC391	Surveying-I Lab	0	0	2	2	1
11	PCC	CEC392	Computer Aided Civil Engineering Drawing by AutoCAD Lab	0	0	2	2	1
11	PCC	CEC394	Engineering Geology Lab	0	0	2	2	1
12	PROJ	PRJCE381	Project (CAD Based)	0	0	0	0	1
13	HSMC	BTHSDP381	Skill Development for Professionals –III	0	0	2	2	0.5
MOOCs Certificate Courses (NPTEL/SWAYAM)								
14	NPT	NPT301	NPTEL	-	-	-	-	1
TOTAL							30	25

4th SEMESTER

Sl. No.	Category	Code	Course Title	Hours per week			Total contact hours	Credits
Theory Papers				L	T	P		
1	BSM	BSM401	Mathematics - IV	2	1	0	3	3
2	HSM	HSM015	Civil Engineering- Societal & Global Impact	1	0	0	1	1
3	PCC	CEC406	Concrete Technology	2	0	0	2	2
4	PCC	CEC407	Fluid Mechanics	3	0	0	3	3
5	PCC	CEC408	Structural Analysis-I	3	0	0	3	3
6	PCC	CEC409	Surveying-II	2	1	0	3	3
7	PCC	CEC410	Soil Mechanics	3	0	0	3	3
8	HSMC	BTHESP401	Essentials Studies for Professionals – IV	2	0	0	2	0.5
Practical / Sessional Papers								
	PCC	CEC496	Concrete Technology Lab	0	0	2	2	1
8	PCC	CEC497	Fluid Mechanics Lab	0	0	2	2	1
9	PCC	CEC499	Surveying-II Lab	0	0	2	2	1
10	PCC	CEC490	Soil Mechanics Lab	0	0	2	2	1
11	HSMC	BTHSDP481	Skill Development for Professionals –IV	0	0	2	2	0.5
MOOCs Certificate Courses (NPTEL/SWAYAM)								
12	NPT	NPT401	NPTEL	-	-	-	-	1
TOTAL							30	24

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5th SEMESTER

Sl. No.	Category	Code	Course Title	Hours per week			Total contact hours	Credits
Theory Papers				L	T	P		
1	PCC	CEC511	Design of RC Structures	3	0	0	3	3
2	PCC	CEC512	Structural Analysis-II	3	0	0	3	3
3	PCC	CEC513	Engineering Hydrology	3	0	0	3	3
4	PCC	CEC514	Foundation Engineering	3	0	0	3	3
5	PCC	CEC515	Environmental Engineering-I	3	0	0	3	3
6	PCC	CEC516	Transportation Engineering	3	0	0	3	3
7	HSMC	BTHESP501	Essentials Studies for Professionals – V	2	0	0	2	0.5
Practical / Sessional Papers								
8	PCC	CEC594	Environmental Engineering-I Lab	0	0	2	2	1
9	PCC	CEC595	Transportation Engineering Lab	0	0	2	2	1
10	INT	INT501	Internship/Industry	0	0	0	0	3
11	HSMC	BTHSDP581	Skill Development for Professionals –V	0	0	2	2	0.5
MOOCs Certificate Courses (NPTEL/SWAYAM)								
12	NPT	NPT501	NPTEL	-	-	-	-	1
TOTAL							26	25

6th SEMESTER

SL No.	Category	Code	Course Title	Hours per week			Total contact hours	Credits
Theory Papers				L	T	P		
1	PCC	CEC617	Construction Engineering & Management	3	0	0	3	3
2	PCC	CEC618	Estimating & Costing	3	0	0	3	3
3	PCC	CEC619	Design of Steel Structures	3	0	0	3	3
4	PCC	CEC620	Water Resource Engineering	3	0	0	3	3
5	PCC	CEC621	Environmental Engineering-II	3	0	0	3	3
6	PEC	CED---	Professional Elective-I	3	0	0	3	3
7	MC	MC002	Disaster Management	1	0	0	1	0
8	HSMC	BTHESP601	Essentials Studies for Professionals – VI	2	0	0	2	0.5
Practical / Sessional Papers								
9	CEC	CEC698	Estimating & Costing Lab	0	0	2	2	1
10	CEC	CEC699	Design of RC and Steel Structures Lab	0	0	2	2	1
11	PROJ	PRJCE681	Project (Design Based)	0	0	2	2	1
12	HSMC	BTHSDP681	Skill Development for Professionals – VI	0	0	2	2	0.5
MOOCs Certificate Courses (NPTEL/SWAYAM)								
12	NPT	NPT601	NPTEL	-	-	-	-	1
TOTAL							29	23

List of Professional Elective-I

SL No.	Course Title	Code
1	Pre-stressed Concrete	CED601
2	Advanced Highway & Transportation Engineering	CED602
3	Solid and Hazardous Waste Management	CED603

7th SEMESTER

Sl. No.	Category	Code	Course Title	Hours per week			Total contact hours	Credits
Theory Papers				L	T	P		
1	PEC	CED---	Professional Elective-II	3	0	0	3	3
2	PEC	CED---	Professional Elective-III	3	0	0	3	3
4	HSMC	HSM---	Management Elective-I	3	0	0	3	3
9	HSMC	BTHESP701	Essentials Studies for Professionals – VII	2	0	0	2	0.5
Practical / Sessional Papers								
9	PROJ	PRJCE781	Project-I	0	0	8	8	4
10	INT	INT701	Internship/Industry	0	0	0	0	3
11	HSMC	HSMCE781	Comprehensive Viva Voce-I	0	0	0	0	1
12	HSMC	BTHSDP781	Skill Development for Professionals –VII	0	0	2	2	0.5
TOTAL							21	18

List of Professional Elective-II and III

SL No.	Course Title	Code
1	Matrix Method of Structural Analysis	CED704
2	Repair and Rehabilitation of Structures	CED705
3	Hydraulic Engineering	CED706
4	Structural Dynamics & Earthquake Engineering	CED707
5	Air and Noise Pollution Control	CED708
6	BIM by Autodesk Revit Architecture	CED709

List of Management Elective-I

SL No.	Course Title	Code
1	Human Resource Management	HSMCE001
1	Industrial Psychology	HSMCE002
2	Principle of Management	HSMCE003

8th SEMESTER

Sl. No.	Category	Code	Course Title	Hours per week			Total contact hours	Credits
Theory Papers				L	T	P		
1	PEC	CED---	Professional Elective-IV	3	0	0	3	3
2	PEC	CED---	Professional Elective-V	3	0	0	3	3
9	HSMC	BTHESP801	Essentials Studies for Professionals – VIII	2	0	0	2	0.5
Practical / Sessional Papers								
9	PROJ	PRJCE881	Project-II	0	0	8	8	4
10	HSMC	HSMCE881	Comprehensive Viva Voce-II	0	0	0	0	1
10	HSMC	BTHSDP881	Skill Development for Professionals – VIII	0	0	2	2	0.5
TOTAL							18	12

List of Professional Elective-IV and V

SL No.	Course Title	Code
1	Earthquake Resistant Design of Structures	CED810
2	Pavement Design	CED811
3	Ground Improvement Techniques	CED812
4	Bridge Engineering	CED813
5	Advanced Foundation Design	CED814