

3rd Semester											
Sl.No.	Course Type	Course Title	Course Code	Teaching Dept.	L	T	P	Credits	CIE	SEE	Total
1	BSC	Applied Mathematics -III	MM201	BS	3	1	1	4	50	50	100
2	PCC	Strength of Materials	CV202	Civil	3	2	0	4	50	50	100
3	PCCL	Building Materials Testing laboratory	CV203	Civil	0	0	2	1	50	50	100
4	PCC	Fluid Mechanics and Hydraulics	CV204	Civil	3	0	0	3	50	50	100
5	PCCL	Fluid Mechanics and Hydraulics Laboratory	CV205	Civil	0	0	2	1	50	50	100
6	IPCC	Geodetic Engineering	CV206	Civil	2	0	2	3	50	50	100
7	ESC	Engineering Science Course	CV22X	Civil	3	0	0	3	50	50	100
8	UHV	Universal Human Values	HV207	Dept	2	0	0	2	50	50	100
9	NCMC	NSS – Phase 1	NS208	NSS	0	2	0	0	50	0	50
		Physical Education (PE) (Sports and Athletics) – Phase 1	PE208	PED							
		Yoga for a Better Life - Phase 1	YG208	Yoga							
10	NCMC	Additional Mathematics	DM209	BS	2	0	0	0	50	50	100
					18	5	7	21	500	450	950

IBSC: Integrated Basic Science Course, **PCC:** Professional Core Course, **PCCL:** Professional Core Course laboratory, **IPCC :** Integrated Professional Core Course, **ESC:** Engineering Science Course, **IESC:** Integrated Engineering Science Course, **IPEC,** **HSMC:** Humanity and Social Science & Management Course, **AEC:** Ability Enhancement Course, **UHV:** Universal Human Value Course, **IPEC:** Integrated Professional Elective Course, **IOEC:** Integrated Open Elective Course, **CER :** Certification Course, **PROJ:**Project, **INT:** Internship, **NCMC:** Non-Credit Mandatory Course

L: Lecture, **T:** Tutorial, **P:** Practical,

CIE: Continuous Internal Evaluation, **SEE:** Semester End Evaluation,

In **IPCC** courses, practical components shall be included, but not limited to the few experiments. IPCC courses shall have list few practice experiments and

National Service Scheme /Physical Education/Yoga: All students have to register for any one of the courses namely National Service Scheme (NSS), Physical Education (PE) (Sports and Athletics), **and Yoga (YG)** with the concerned coordinator of the course during the III semester. Activities shall be carried out between III semesters to the IV semester (for 2 semesters). Successful completion of the registered course and requisite **CIE score is mandatory for the award of the degree.** The events shall be appropriately scheduled by the colleges and the same shall be reflected in the calendar prepared for the NSS, PE, and Yoga activities. These courses shall not be considered for vertical progression as well as for the calculation of SGPA and CGPA, but completion of the course is mandatory for the award of degree.

ESC		
Sl.No.	Course Title	Course Code
1	Building Materials and Construction Technology	CV221
2	Rural, Urban Planning and Architecture	CV222
3	Geospatial Techniques in Practice	CV223
4	Technical Writing Skills	CV224

4th Semester											
Sl.No.	Course Type	Course Title	Course Code	Teaching Dept.	L	T	P	Credits	CIE	SEE	Total
1	BSC	Applied Mathematics -IV	MM251	BS	3	0	0	3	50	50	100
2	PCC	Advanced surveying	CV252	Civil	3	0	0	3	50	50	100
3	PCCL	Surveying Practice lab-II	CV253	Civil	0	0	2	1	50	50	100
4	PCC	Analysis of Determinate Structures	CV254	Civil	2	2	0	3	50	50	100
5	PCCL	Computer Aided Building Planning and Drawing	CV255	Civil	0	0	2	1	50	50	100
6	IPCC	Environmental Engineering-I	CV256	Civil	3	0	0	3	50	50	100
7	ESC	Engineering Science Course	CV26X	Civil	2	2	0	3	50	50	100
8	AEC	Ability Enhancement Course	CV27X	Civil	2	0	0	2	50	50	100
9	BSC	Biology for Engineers	BG257	BS	2	0	0	2	50	50	100
10	NCMC	NSS – Phase 2	NS258	NSS	0	2	0	0	50		50
		Physical Education (PE) (Sports and Athletics) – Phase 2	PE258	PED							
		Yoga for a Better Life - Phase 2	YG258	Yoga							
11	NCMC	Social Connect and Responsibility	SC259	Any Dept.	0	0	2	0	50	0	50
					17	6	6	21	550	450	1000

IBSC: Integrated Basic Science Course, **PCC:** Professional Core Course, **PCCL:** Professional Core Course laboratory, **IPCC :** Integrated Professional Core Course, **ESC:** Engineering Science Course, **IESC:** Integrated Engineering Science Course, **IPEC,** **HSMC:** Humanity and Social Science & Management Course, **AEC:** Ability Enhancement Course, **UHV:** Universal Human Value Course, **IPEC:** Integrated Professional Elective Course, **IOEC:** Integrated Open Elective Course, **CER :** Certification Course, **PROJ:**Project, **INT:** Internship, **NCMC:** Non-Credit

L: Lecture, **T:** Tutorial, **P:** Practical,

CIE: Continuous Internal Evaluation, **SEE:** Semester End Evaluation,

In **IPCC** courses, practical components shall be included, but not limited to the few experiments. IPCC courses shall have list few practice experiments and open ended experiment based on the concepts covered in the course. The expected outcome is students have to do the guided project related to the course.

National Service Scheme /Physical Education/Yoga: All students have to register for any one of the courses namely National Service Scheme (NSS), Physical Education (PE) (Sports and Athletics), and **Yoga (YG)** with the concerned coordinator of the course during the III semester. Activities shall be carried out between III semesters to the IV semester (for 2 semesters). Successful completion of the registered course and requisite **CIE score is mandatory for the award of the degree.** The events shall be appropriately scheduled by the colleges and the same shall be reflected in the calendar prepared for the NSS, PE, and Yoga activities. These courses shall not be considered for vertical progression as well as for the calculation of SGPA and CGPA, but completion of the course is mandatory for the award of degree.

ESC		
Sl.No.	Course Title	Course Code
1	WaterShed Management	CV261

AEC		
Sl.No.	Course Title	Course Code
1	Green Building	CV271

2	Construction Equipment, Plants and Machinery	CV262
3	Concrete Techniques and Practices	CV263
4	Finance for Professionals	CV264

2	Problem Solving with Python	CV272
3	Smart Urban Infrastructure	CV273
4	Personality Development for Civil Engineers	CV274

5th Semester											
Sl.No.	Course Type	Course Title	Course Code	Teaching Dept.	L	T	P	Credits	CIE	SEE	Total
1	PCC	Environmental Engineering-II	CV301	Civil	2	2	0	3	50	50	100
2	PCCL	Environmental Engineering Lab	CV302	Civil	0	0	2	1	50	50	100
3	PCC	Analysis of Indeterminate Structures	CV303	Civil	2	2	0	3	50	50	100
4	PCCL	Software Application Laboratory	CV304	Civil	0	0	2	1	50	50	100
5	IPCC	Design of RC Structural Elements	CV305	Civil	2	0	2	3	50	50	100
6	HSMC	Research Methodology and IPR/Project Management	CV306	Civil	2	0	0	2	50	50	100
7	HSMC	Environmental studies	CV307	Civil	0	2	0	1	50	50	100
8	AEC	BOS recommended ONLINE Course	CV308	Civil				2			100
9	PEC-1	Professional Elective Course	CV32X	Civil	3	0	0	3	50	50	100
10	OEC-1	Open Elective Course	CV33X	Civil	3	0	0	3	50	50	100
11	NCMC	NSS – Phase 3	NS308	NSS	0	2	0	0	50		50
		Physical Education (PE) (Sports and Athletics) – Phase 3	PE308	PED							
		Yoga for a Better Life - Phase 3	YG308	Yoga							
					14	8	6	22	500	450	1050

IBSC: Integrated Basic Science Course, **PCC:** Professional Core Course, **PCCL:** Professional Core Course laboratory, **IPCC :** Integrated Professional Core Course, **ESC:** Engineering Science Course, **IESC:** Integrated Engineering Science Course, **IPEC:** Humanity and Social Science & Management Course, **AEC:** Ability Enhancement Course, **UHV:** Universal Human Value Course, **IPEC:** Integrated Professional Elective Course, **IOEC:** Integrated Open Elective Course, **CER :** Certification Course, **PROJ:** Project, **INT:** Internship, **NCMC:** Non-Credit Mandatory

L: Lecture, **T:** Tutorial, **P:** Practical,

CIE: Continuous Internal Evaluation, **SEE:** Semester End Evaluation,

In **IPCC** courses, practical components shall be included, but not limited to the few experiments. IPCC courses shall have list few practice experiments and open ended experiment based on the concepts covered in the course. The expected outcome is students have to do the guided project related to the course.

Professional Elective Courses (PEC): A professional elective (PEC) course is intended to enhance the depth and breadth of educational experience in the Engineering

Open Elective Course (OEC): These Courses will be offered by each department on the emerging technologies and Centre of Excellence to students of other branches. These courses may be online courses approved by the respective Board of Studies (BOS). These courses shall not offered to the students of offering department.

Note:

- 1 In place of Open Elective Course (OEC) students may carry out any industrial internship or societal internship or societal project leading
- 2 The eligible students (**having CGPA ≥ 7.5 without any backlogs**) may register for **Research work** leading a publication in reputed journal at the 5th semester in lieu of an Open elective. **The Credit for the same shall be reflected in the 8th Semester grade card.**
- 3 **Certification course:** The students shall take up the relevant certification courses from NPTEL/Swayam, Coursera, Infosys Springboard, **Courses offered by Premier Institute like IISC, IITs, MIT** etc. having a final score reflecting in the certificate. Students shall take up these courses from 1st semester and submit the certificate prior to last working of the 5th semester. **There will be no SEE. The score reflected in certificate shall be directly used for grade processing.**

PEC-1		
Sl.No.	Course Title	Course Code
1	Construction Equipment Management	CV321
2	Hydrology and Irrigation Engineering	CV322
3	Building Information and Modelling	CV323
4	Construction Quality Management	CV324

OEC-1		
Sl.No.	Course Title	Course Code
1	Environmental Protection Management	CV331
2	Rural Water Supply and Sanitation	CV332
3	Remote Sensing and GIS	CV333
4	Fire Safety in Buildings	CV334

6th Semester											
Sl.No.	Course Type	Course Title	Course Code	Teaching Dept.	L	T	P	Credits	CIE	SEE	Total
1	PCC	Geotechnical Engineering	CV351	Civil	2	2	0	3	50	50	100
2	PCCL	Geotechnical Engineering Lab	CV352	Civil	0	0	2	1	50	50	100
3	PCC	Design of steel Structural Elements	CV353	Civil	2	2	0	3	50	50	100
4	PCCL	CADD Detailing lab	CV354	Civil	0	0	2	1	50	50	100
5	IPCC	Transportation Engineering	CV355	Civil	2	0	2	3	50	50	100
6	HSMC	Research Methodology and IPR/Project Management	CV356	Civil	2	0	0	2	50	50	100
7	AEC	Abiltly Enhancement Course	CV36X	Civil	0	2	2	2	50	50	100
8	PROJ	Mini Project	CV357	Civil	0	0	2	1	50	50	100
9	PEC-2	Professional Elective Course	CV37X	Civil	3	0	0	3	50	50	100
10	OEC-2	Open Elective Course	CV38X	Civil	3	0	0	3	50	50	100
11	NCMC	NSS – Phase 4	NS358	NSS	0	2	0	0	50		50
		Physical Education (PE) (Sports and Athletics) – Phase 4	PE358	PED							
		Yoga for a Better Life - Phase 4	YG358	Yoga							
					14	6	10	22	500	500	1000

IBSC: Integrated Basic Science Course, **PCC:** Professional Core Course, **PCCL:** Professional Core Course laboratory, **IPCC :** Integrated Professional Core Course, **ESC:** Engineering Science Course, **IESC:** Integrated Engineering Science Course, **IPEC,** **HSMC:** Humanity and Social Science & Management Course, **AEC:** Ability Enhancement Course, **UHV:** Universal Human Value Course, **IPEC:** Integrated Professional Elective Course, **IOEC:** Integrated Open Elective Course, **CER :** Certification Course, **PROJ:**Project, **INT:** Internship, **NCMC:** Non-Credit

L: Lecture, **T:** Tutorial, **P:** Practical,

CIE: Continuous Internal Evaluation, **SEE:** Semester End Evaluation,

In **IPCC** courses, practical components shall be included, but not limited to the few experiments. IPCC courses shall have list few practice experiments and open ended experiment based on the concepts covered in the course. The expected outcome is students have to do the guided project

Note:

- 1 In place of Open Elective Course (OEC) students may carry out any industrial internship or societal internship or societal project leading to startups.

PEC-2		
Sl.No.	Course Title	Course Code
1	Urban Transport Planning	CV371
2	AI Application in Civil Engineering	CV372
3	Air Pollution and Control	CV373
4	Construction Management and Entrepreneurship	CV374

OEC-2		
Sl.No.	Course Title	Course Code
1	Conservation of Natural Resources	CV381
2	Traffic Engineering	CV382
3	Alternative Building Materials	CV383
4	Sustainability Concepts in Engineering	CV384

AEC		
Sl.No.	Course Title	Course Code
1	Primavera	CV361
2	Integrated Waste Management for a Smart City	CV362
3	Data Analytics for Civil Engineers	CV363
4	Quality Control and Quality Assurance	CV364

7th Semester											
Sl.No.	Course Type	Course Title	Course Code	Teaching Dept.	L	T	P	Credits	CIE	SEE	Total
1	PCC	Estimation Costing and Valuation	CV401	Civil	2	2	0	3	50	50	100
2	PCCL	Building Information Modelling Lab	CV402	Civil	0	0	2	1	50	50	100
3	IPCC	Design and Drawing of RCC and Steel Structural Elements	CV403	Civil	2	0	2	3	50	50	100
4	PROJ-1	Project Phase-1 with Seminar	CV404	Civil	0	0	4	1	50		50
5	PEC-3	Professional Elective Course	CV42X	Civil	3	0	0	3	50	50	100
6	PEC-4	Professional Elective Course	CV43X	Civil	3	0	0	3	50	50	100
7	OEC-3	Open Elective Course	CV44X	Civil	3	0	0	3	50	50	100
					13	2	8	17	350	300	650

IBSC: Integrated Basic Science Course, **PCC:** Professional Core Course, **PCCL:** Professional Core Course laboratory, **IPCC :** Integrated Professional Core Course, **ESC:** Engineering Science Course, **IESC:** Integrated Engineering Science Course, **IPEC,** **HSMC:** Humanity and Social Science & Management Course, **AEC:** Ability Enhancement Course, **UHV:** Universal Human Value Course, **IPEC:** Integrated Professional Elective Course, **IOEC:** Integrated Open Elective Course, **CER :** Certification Course, **PROJ:**Project, **INT:** Internship, **NCMC:** Non-Credit Mandatory Course

L: Lecture, **T:** Tutorial, **P:** Practical,

CIE: Continuous Internal Evaluation, **SEE:** Semester End Evaluation,

In **IPCC** courses, practical components shall be included, but not limited to the few experiments. IPCC courses shall have list few practice experiments and open ended experiment based on the concepts covered in the course. The expected outcome is students have to do the guided project related to the course.

Note:

- 1 In place of Open Elective Course (OEC) students may carry out any industrial internship or societal internship or societal project leading to startups.
- 2 **Project Phase-1:** Includes Problem statement and Literature survey on the project to be submitted in 8th semester.

PEC-3		
Sl.No.	Course Title	Course Code
1	Pre Stressed Concrete	CV421
2	Design of Bridge	CV422
3	Pavement Design	CV423
4	Environment Impact Assessment	CV424

OEC-3		
Sl.No.	Course Title	Course Code
1	Solid Waste Management	CV441
2	Water Resource Management	CV442
3	Railways, Harbor, Tunneling and Airport	CV443
4	Industrial Wastewater Engineering	CV444

PEC-4		
Sl.No.	Course Title	Course Code
1	Pavement Materials and Construction	CV431
2	Advanced Concrete Technology	CV432
3	Highway Geometric Design	CV433
4	Solid waste & Hazardous Waste Management	CV434

8th Semester											
Sl.No.	Course Type	Course Title	Course Code	Teaching Dept.	L	T	P	Credits	CIE	SEE	Total
1	INT	Research Internship	CV451	Civil				5	50	50	100
2	PROJ-2	Project Phase-2	CV452	Civil				10	50	50	100
3	AEC	BOS recommended ONLINE Course	CV453	Civil				2			100
								17	100	100	300

NOTE:

- INT** : Research Internship shall be carried out in the premier institutes or in the Research Institute for minimum period of 14 to 18 weeks.
- Project Phase-2:** Includes demonstration and presentation on the project and the final viva. A Technical paper submitted/published is desirable.
- Research work:** The credit for Research work opted during 5th semester shall be reflected in the 8th semester grade card upon submission of **proof for publishing in the research paper in reputed journal.**
- Certification course:** The students shall take up the relevant certification courses from NPTEL/Swayam, Coursera, Infosys Springboard, **Courses offered by Premier Institute like IISC, IITs, MIT** etc. having a final score reflecting in the certificate. Students shall take up these courses from 1st semester and submit the certificate prior to last working of the 8th semester. **There will no SEE. The score reflected in certificate shall be directly used for grade processing.**