



SRI KRISHNA COLLEGE OF ENGINEERING AND TECHNOLOGY
An Autonomous Institution, Affiliated to Anna University
Coimbatore - 641 008

DEPARTMENT OF CIVIL ENGINEERING



CURRICULUM AND SYLLABI
BE CIVIL ENGINEERING
REGULATION 2022
(B: 2023-2027)



SRI KRISHNA COLLEGE OF ENGINEERING AND TECHNOLOGY

An Autonomous Institution affiliated to Anna University, Chennai
Kuniamuthur, Coimbatore - 641 008

DEPARTMENT OF CIVIL ENGINEERING

**BE CIVIL ENGINEERING
CURRICULUM AND SYLLABI
REGULATION 2022 (B: 2023-2027)
CHOICE BASED CREDIT SYSTEM**

SRI KRISHNA COLLEGE OF ENGINEERING AND TECHNOLOGY

An Autonomous Institution Affiliated to Anna University

Kuniamuthur, Coimbatore - 641 008

VISION AND MISSION OF THE DEPARTMENT

Our Vision

To be a center of excellence in Civil Engineering Education through full-fledged learning experience along with research.

Our Mission

To accomplish our vision, we are committed to

- M1: Faculty experts from all specialization of Civil Engineering to facilitate teaching learning process
- M2: Excellent infrastructure facilities to apply Civil Engineering knowledge and perform societal based research
- M3: Exposure to latest technologies in Civil Engineering through industry-institute interaction and professional bodies
- M4: Environs to develop their innovative thoughts, ethics, communication, inter- and intra-personal skills
- M5: Enthusiasm towards self-learning, social responsibility and entrepreneurship

Program Outcomes (POs):-

At the time of their graduation students of Civil Engineering Program should be in possession of the following Program Outcomes

- PO 1. **Engineering knowledge:** Apply the knowledge of mathematics, science and engineering fundamentals for the solution of complex Civil Engineering problems.
- PO 2. **Problem analysis:** Identify, formulate and analyse complex Civil Engineering problems reaching substantiated conclusions using first principles of mathematics and engineering sciences.
- PO 3. **Design/development of solutions:** Design solutions for complex Civil Engineering problems and design system components with appropriate consideration for public health & safety, cultural, societal and environmental considerations.

- PO 4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis & interpretation of data and synthesis of the information to provide valid conclusions.
- PO 5. **Modern tool usage:** Create, select & apply appropriate techniques, resources, modern engineering and IT tools, including prediction and modeling to complex Civil Engineering activities, with an understanding of the limitations.
- PO 6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal & cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- PO 7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO 8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities as well as norms of the engineering practice.
- PO 9. **Individual and team work:** Function effectively as an individual, a member or leader in diverse teams and in multidisciplinary settings.
- PO 10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with the society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- PO 11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- PO 12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Educational Objectives (PEOs):-

The following Program Educational Objectives are designed based on the department mission

1. To apply knowledge of mathematics, science and engineering to solve existing problems in the area of Structural, Geotechnical, Water Resources, Environmental, Transportation, Urban Planning, Construction Materials and Management in Civil Engineering
2. To analyze, design, construct Civil Engineering traditional and modern structures

3. To perform investigation on any complicated Civil Engineering problems by conducting research using modern equipment's and software tools
4. To communicate and develop strong inter- and intra- personal skills to prepare them for placement and higher studies
5. To be self-motivated towards lifelong learning and entrepreneurship

Mapping of POs to PEOs

Program Educational Objectives	Program Outcomes											
	1	2	3	4	5	6	7	8	9	10	11	12
PEO 1	3	2	3	2	2	3	2	2	3	3	3	2
PEO 2	3	3	2	2	3	2	2	2	2	2	2	3
PEO 3	3	3	3	2	3	3	2	2	2	3	2	3
PEO 4	3	3	2	2	3	2	2	2	2	2	2	3
PEO 5	3	3	3	2	3	3	2	2	2	3	2	3

1	Reasonably agreed	2	Moderately agreed	3	Strongly agreed
---	-------------------	---	-------------------	---	-----------------

Program Specific Outcomes (PSOs):-

At the end of the Program, Graduate shall have

- | | | |
|-------|--|--|
| PSO 1 | Analytical Knowledge and Practical Skills | The ability to analyse, design and interpret by applying the concepts of mathematics and physical sciences in the core areas of Civil Engineering. |
| PSO 2 | Civil Engineer and Sustainability | The propensity to excel in portfolio of waste management, sanitation, housing and construction management for the sustainable environment. |
| PSO 3 | Environment and Social Commitment | The ability to acquire and update knowledge continuously and offer engineering solutions to meet the environmental and societal needs. |

B.E. CIVIL ENGINEERING
REGULATION 2022 (B: 2023-2027)

I – VIII SEMESTER CURRICULUM AND SYLLABI

SEMESTER I									
SL. No.	Course Code	Course	L	T	P	Contact hrs./wk.	C	Ext / Int	Cat.
1	23CE101	Introduction to Civil Engineering	3	0	0	3	3	60/40	HSMC
2	23MA101	Mathematics I	3	1	0	4	4	60/40	BSC
3	23EE113	Fundamentals of Electrical and Electronics Engineering	2	1	0	3	3	60/40	ESC
4	23PS101	Physical Sciences	4	0	0	4	4	60/40	BSC
5	23TA101	Heritage of Tamils	1	0	0	1	1	60/40	IKS
6	23CS101	Problem solving using C++	1	0	4	5	3	50/50	ESC
7	23PS102	Physical Science Laboratory	0	0	4	4	2	40/60	BSC
8	23EE115	Fundamentals of Electrical and Electronics Engineering Laboratory	0	0	2	2	1	40/60	ESC
9	23CE102	Engineering Graphics Laboratory	0	0	3	3	1.5	40/60	ESC
10	23MC101	Induction Programme 3 - weeks (Mandatory Course -I)					0	0/100	MC
Total			14	2	13	29	22.5	1000	

SEMESTER II									
SL. No.	Course Code	Course	L	T	P	Contact hrs./wk.	C	Ext / Int	Cat.
1	23MA204	Calculus and Fourier Series	3	1	0	4	4	60/40	BSC
2	23CE201	Applied Mechanics	3	1	0	4	4	60/40	BSC
3	23CE202	Construction Materials and Techniques	3	0	0	3	3	60/40	ESC
4	23TA201	Tamils and Technology	1	0	0	1	1	60/40	IKS
5	23CE203	Architectural Planning and Building Drawing	3	0	3	6	4.5	50/50	ESC
6	23EN101	Oral and Written Communication Skills	2	0	2	4	3	50/50	HSMC
7	23IT211	Introduction to Python Programming	1	0	4	5	3	50/50	ESC
8	23CE204	Engineering Practices Laboratory	0	0	4	4	2	40/60	ESC
Total			16	2	13	31	24.5	800	

SEMESTER III									
SL. No.	Course Code	Course	L	T	P	Contact hrs./wk.	C	Ext / Int	Cat.
1	23MA303	Numerical Methods	3	1	0	4	4	60/40	BSC
2	23CE301	Fluid Mechanics and Hydraulic Engineering	3	0	0	3	3	60/40	PCC
3	23CE302	Solid Mechanics	3	1	0	4	4	60/40	PCC
4	23CE303	Surveying and Geomatics	3	0	0	3	3	60/40	PCC
5	23GE301	Universal Human Values	3	0	0	3	3	60/40	HSMC
6	23CE304	Fluid Mechanics Laboratory	0	0	3	3	1.5	40/60	PCC
7	23CE305	Solid Mechanics Laboratory	0	0	3	3	1.5	40/60	PCC
8	23CE306	Surveying and Geomatics Laboratory	0	0	3	3	1.5	40/60	PCC
9	23MCxxx	Mandatory Course II	2	0	0	2	0	0/100	MC
Total			17	2	9	28	21.5	900	

SEMESTER IV									
SL. No.	Course Code	Course	L	T	P	Contact hrs./wk.	C	Ext / Int	Cat.
1	23CE401	Concrete Technology	3	0	0	3	3	60/40	PCC
2	23CE402	Environmental Engineering	3	0	0	3	3	60/40	PCC
3	23CE403	Structural Analysis	3	1	0	4	4	60/40	PCC
4	23CE404	Transportation Engineering	3	0	0	3	3	60/40	PCC
5	23xyyy	Open Elective I	3 or 1 or 0	0 or 0 or 0	0 or 4 or 6	3 or 5 or 6	3	60/40 or 40/60	OEC
6	23CE405	Concrete and Highway Engineering Laboratory	0	0	4	4	2	40/60	PCC
7	23CE406	Environmental Engineering Laboratory	0	0	3	3	1.5	40/60	PCC
8	23CE407	Structural Analysis Laboratory	0	0	3	3	1.5	40/60	PCC
9	23EES101	Employability Enhancement Skills (Internship / Training – 2 weeks)	0	0	0	0	1	40/60	EES
10	23MCxxx	Mandatory Course III	2	0	0	2	0	0/100	MC
Total			17	1	10	28	22	1000	

SEMESTER V									
SL. No.	Course Code	Course	L	T	P	Contact hrs./wk.	C	Ext / Int	Cat.
1	23CE501	Design of Reinforced Concrete Elements	3	1	0	4	4	60/40	PCC
2	23CE502	Geotechnical Engineering	3	1	0	4	4	60/40	PCC
3	23CE503	Intelligent transportation system	3	0	0	3	3	60/40	PCC
4	23CExxx	Professional Elective I	3	0	0	3	3	60/40	PEC
5	23xyyy	Open Elective II	3 or 1 or 0	0 or 0 or 0	0 or 4 or 6	3 or 5 or 6	3	60/40 or 40/60	OEC
6	23CE504	Design of RC Structures Laboratory	0	0	3	3	1.5	40/60	PCC
7	23CE505	Geotechnical Laboratory	0	0	3	3	1.5	40/60	PCC
8	23EES102	Employability Enhancement Skills (Internship / Training – 2 weeks)	0	0	0	0	1	40/60	EES
9	23MCxxx	Mandatory Course – IV	2	0	0	2	0	0/100	MC
Total			17	2	6	25	21	900	

SEMESTER VI									
SL. No.	Course Code	Course	L	T	P	Contact hrs./wk.	C	Ext / Int	Cat.
1	23CE601	Construction Planning and Management	3	0	0	3	3	60/40	PCC
2	23CE602	Design of Steel Structural Elements	3	1	0	4	4	60/40	PCC
3	23CE603	Foundation Engineering	3	0	0	3	3	60/40	PCC
4	23CExxx	Open Elective III	3	0	0	3	3	60/40	OEC
5	23CExxx	Professional Elective II	3	0	0	3	3	60/40	PEC
6	23CExxx	Professional Elective III	3	0	0	3	3	60/40	EEC
7	23CE604	Design of Steel Structures Laboratory	0	0	3	3	1.5	40/60	PCC
8	23CE605	Project Planning Laboratory	0	0	3	3	1.5	40/60	PCC
Total			18	1	6	25	22	800	

SEMESTER VII									
SL. No.	Course Code	Course	L	T	P	Contact hrs./wk.	C	Ext / Int	Cat.
1	23CE701	Construction Cost Estimation and Valuation	3	1	0	4	4	60/40	PCC
2	23CE702	Sustainable and Green Construction	3	0	0	3	3	60/40	PCC
3	23Cexxx	Open Elective IV	3	0	0	3	3	60/40	OEC
4	23Cexxx	Professional Elective IV	3	0	0	3	3	60/40	PEC
5	23Cexxx	Professional Elective V	3	0	0	3	3	60/40	PEC
6	23Cexxx	Professional Elective VI	3	0	0	3	3	60/40	PEC
7	23CE703	Construction Cost Estimation and Valuation Laboratory	0	0	3	3	1.5	40/60	PCC
8	23CE704	Design Comprehensive Project	0	0	4	4	2	40/60	PROJ
Total			18	1	7	26	22.5	800	

SEMESTER VIII									
SL. No.	Course Code	Course	L	T	P	Contact hrs./wk.	C	Ext / Int	Cat.
1.	23CE801	Project Work	0	0	24	24	12	40/60	PROJ
Total			0	0	24	24	12	100	

L: Lecture T: Tutorial P: Practical C: Credit Cat.: Category

HSMC : Humanities and Social Sciences including Management
BSC : Basic Science Courses
ESC : Engineering Science Courses
PCC : Professional Core Courses
PEC : Professional Elective Courses

OEC : Open Elective Courses
EEC : Emerging Elective Courses
IKS : Indian Knowledge System
PROJ : Project Work
MC : Mandatory Course

Definition of Credit:

L – Lecture 1 Hr. Lecture (L) per week 1 credit
T – Tutorial 1 Hr. Tutorial (T) per week 1 credit
P – Practical/Practice (Project and Industry based Courses) 1 Hr. Practical (P) per week 0.5 credit

SEMESTER WISE CREDIT DISTRIBUTION: -

Semester	I	II	III	IV	V	VI	VII	VIII	Total
Credits	22.5	24.5	21.5	22	21	22	22.5	12	168

Total Credits: 168

SCHEME OF CREDIT DISTRIBUTION – SUMMARY

SL. No.	Stream	Credits/Semester								Total Credits
		I	II	III	IV	V	VI	VII	VIII	
1.	Humanities & Social Sciences Including Management (HSMC)	3	3	3						9
2.	Basic Sciences (BSC)	10	8	4						22
3.	Engg. Sciences (ESC)	8.5	12.5							21
4.	Professional Core (PCC)			14.5	18	14	13	8.5		68
5.	Professional Electives (PEC)					3	6	9		18
6.	Multidisciplinary Open Electives Courses (OEC)				3	3	3	3		12
7.	Project Work (PROJ) / Employability Enhancement Skills (EES)				1	1		2	12	16
8.	Indian Knowledge System (IKS)	1	1							2
9.	Mandatory Course (MC)	0		0	0	0				0
Total		22.5	24.5	21.5	22	21	22	22.5	12	168

STRUCTURE FOR UNDERGRADUATE ENGINEERING PROGRAMME

SL. No.	Course Work – Subject Area	AICTE Suggested Breakdown of Credits	Civil-SKCET Credits
1.	Humanities and Social Sciences including Management courses	06	9
2.	Basic Science courses	24	22
3.	Engineering Science courses including Workshop, Drawing, Basics of Electrical / Mechanical / Computer etc.	20	21
4.	Professional core courses	62	68
5.	Professional Electives courses relevant to the chosen specialization / branch	26	18
6.	Multidisciplinary Open Electives Courses (OEC)	12	12
7.	Project Work, Seminar and / or Internship in Industry or elsewhere.	16	14
8.	Industrial Practice / Employability Enhancement Skills		2
9.	Indian Knowledge System	2	2
10.	Mandatory Courses	Non-credit	Non-credit
Total		168	168

HUMANITIES & SOCIAL SCIENCES INCLUDING MANAGEMENT (9 Credits)

SL. NO	Course Code	Course	L	T	P	Contact hrs./Wk.	C	Cat.
1	23CE101	Introduction to Civil Engineering	3	0	0	3	3	HSMC
2	23EN101	Oral and Written Communication Skills	2	0	2	4	3	HSMC
3	23GE301	Universal Human Values	3	0	0	3	3	HSMC

BASIC SCIENCE COURSES (22 Credits)

SL. NO	Course Code	Course	L	T	P	Contact hrs./Wk.	C	Cat.
1	23MA101	Mathematics I	3	1	0	4	4	BSC
2	23PS101	Physical Sciences	4	0	0	4	4	BSC
3	23PS102	Physical Science Laboratory	0	0	4	4	2	BSC
4	23MA204	Calculus and Fourier Series	3	1	0	4	4	BSC
5	23CE201	Applied Mechanics	3	1	0	4	4	BSC
6	23MA303	Numerical Methods	3	1	0	4	4	BSC

ENGINEERING SCIENCE COURSES (21 Credits)

SL. NO	Course Code	Course	L	T	P	Contact hrs./Wk.	C	Cat.
1	23EE113	Fundamentals of Electrical and Electronics Engineering	2	1	0	3	3	ESC
2	23CS101	Problem solving using C++	1	0	4	5	3	ESC
3	23EE115	Fundamentals of Electrical and Electronics Engineering Laboratory	0	0	2	2	1	ESC
4	23CE102	Engineering Graphics Laboratory	0	0	3	3	1.5	ESC
8	23CE204	Engineering Practices Laboratory	0	0	4	4	2	ESC
5	23CE202	Construction Materials and Techniques	3	0	0	3	3	ESC
6	23CE205	Architectural Planning and Building Drawing	3	0	3	6	4.5	ESC
7	23IT211	Introduction to Python Programming	1	0	4	5	3	ESC

INDIAN KNOWLEDGE SYSTEM (2 Credits)

SL. NO	Course Code	Course	L	T	P	Contact hrs./Wk.	C	Cat.
1.	23TA101	Heritage of Tamils	1	0	0	1	1	IKS
2.	23TA201	Tamils and Technology	1	0	0	1	1	IKS

PROFESSIONAL CORE COURSES (68 Credits)

SL. NO	Course Code	Course	L	T	P	Contact hrs./Wk.	C	Cat.
1	23CE301	Fluid Mechanics and Hydraulic Engineering	3	0	0	3	3	PCC
2	23CE302	Solid Mechanics	3	1	0	4	4	PCC
3	23CE303	Surveying and Geomatics	3	0	0	3	3	PCC
4	23CE304	Fluid Mechanics Laboratory	0	0	3	3	1.5	PCC
5	23CE305	Solid Mechanics Laboratory	0	0	3	3	1.5	PCC
6	23CE306	Surveying and Geomatics Laboratory	0	0	3	3	1.5	PCC
7	23CE401	Concrete Technology	3	0	0	3	3	PCC
8	23CE402	Environmental Engineering	3	0	0	3	3	PCC
9	23CE403	Structural Analysis	3	1	0	4	4	PCC
10	23CE404	Transportation Engineering	3	0	0	3	3	PCC
11	23CE405	Concrete and Highway Engineering Laboratory	0	0	4	4	2	PCC
12	23CE406	Environmental Engineering Laboratory	0	0	3	3	1.5	PCC
13	23CE407	Structural Analysis Laboratory	0	0	3	3	1.5	PCC
14	23CE501	Design of Reinforced Concrete Elements	3	1	0	4	4	PCC
15	23CE502	Geotechnical Engineering	3	1	0	4	4	PCC
16	23CE503	Intelligent transportation system	3	0	0	3	3	PCC
17	23CE504	Design of RC Structures Laboratory	0	0	3	3	1.5	PCC
18	23CE505	Geotechnical Laboratory	0	0	3	3	1.5	PCC
19	23CE601	Construction Planning and Management	3	0	0	3	3	PCC
20	23CE602	Design of Steel Structural Elements	3	1	0	4	4	PCC
21	23CE603	Foundation Engineering	3	0	0	3	3	PCC
22	23CE604	Design of Steel Structures Laboratory	0	0	3	3	1.5	PCC
23	23CE605	Project Planning Laboratory	0	0	3	3	1.5	PCC
24	23CE701	Construction Cost Estimation and Valuation	3	1	0	4	4	PCC
25	23CE702	Sustainable and Green Construction	3	0	0	3	3	PCC
26	23CE703	Construction Cost Estimation and Valuation Laboratory	0	0	3	3	1.5	PCC

PROFESSIONAL ELECTIVE COURSES - VERTICALS

Vertical I Structural Engineering	Vertical II Geotechnical Engineering	Vertical III Construction Management	Vertical IV Environmental Engineering	Vertical V Infrastructures Engineering	Vertical VI Diversified Courses
Conditional Assessment and Rehabilitation of Structures	Soil Dynamics and Earthquake Engineering	Project Formulation and Implementation	Air and Noise Pollution	Computer Simulation Applications in Transportation Engineering	Plumbing (Water and Sanitation)
Design of RC Structures	Ground Improvement and Geosynthetics	Construction Personnel Management	Industrial Wastewater Treatment System	Smart City Planning and Development	Applications of Sensors and IoT in Civil Engineering
Finite Element Analysis	Environmental Geotechnics	Lean and Sustainable Construction	Rural Water Supply and Onsite Sanitation Systems	Metro Rail Engineering and Infrastructure	Building Services and Management
Pre-stressed Concrete Structures	Surface Water Hydrology	Construction Method and Equipment Management	Irrigation and water resources engineering	Remote Sensing and GIS for Civil Engineering	Valuation of Real Properties
Design of Steel Structures	Assessment of Contaminated Site and Remediation	Supply Chain Management and Logistics in Construction	Ground water and surface water pollution	Smart Construction Materials and Techniques	Nanotechnology in Civil Engineering
Prefabricated Structures	Design of Substructures	Risk and Reliability Analysis of Civil Infrastructure Systems	Solid and Hazardous Waste Management	Highway Pavement Design and Evaluation	Airport and Harbour Engineering
Advanced Structural Analysis	Seismic Design of Structures	Formwork Engineering	Environmental impact Assessment and Life Cycle Analysis	Coastal Engineering	Robotics and Automation in Civil Engineering

PROFESSIONAL ELECTIVE COURSES (18 Credits)

SL. No.	Course Code	Course Title	L/T/P	Contact hrs./Wk.	C	Cat.
Vertical I : Structural Engineering						
1.	23CE901	Conditional Assessment and Rehabilitation of Structures	3/0/0	3	3	PEC
2.	23CE902	Design of RC Structures	3/0/0	3	3	PEC
3.	23CE903	Finite Element Analysis	3/0/0	3	3	PEC
4.	23CE904	Pre-stressed Concrete Structures	3/0/0	3	3	PEC
5.	23CE905	Design of Steel Structures	3/0/0	3	3	PEC
6.	23CE906	Prefabricated Structures	3/0/0	3	3	PEC
7.	23CE907	Advanced Structural Analysis	3/0/0	3	3	PEC
Vertical II: Geotechnical Engineering						
8.	23CE908	Soil Dynamics and Earthquake Engineering	3/0/0	3	3	PEC
9.	23CE909	Ground Improvement and Geosynthetics	3/0/0	3	3	PEC
10.	23CE910	Environmental Geotechnics	3/0/0	3	3	PEC
11.	23CE911	Surface Water Hydrology	3/0/0	3	3	PEC
12.	23CE912	Assessment of Contaminated Site and Remediation	3/0/0	3	3	PEC
13.	23CE913	Design of Substructures	3/0/0	3	3	PEC
14.	23CE914	Seismic Design of Structures	3/0/0	3	3	PEC
Vertical III: Construction Management						
15.	23CE915	Project Formulation and Implementation	3/0/0	3	3	PEC
16.	23CE916	Construction Personnel Management	3/0/0	3	3	PEC
17.	23CE917	Lean and Sustainable Construction	3/0/0	3	3	PEC
18.	23CE918	Construction Method and Equipment Management	3/0/0	3	3	PEC
19.	23CE919	Supply Chain Management and Logistics in Construction	3/0/0	3	3	PEC
20.	23CE920	Risk and Reliability Analysis of Civil Infrastructure Systems	3/0/0	3	3	PEC
21.	23CE921	Formwork Engineering	3/0/0	3	3	PEC
Vertical IV: Environmental Engineering						
22.	23CE922	Air and Noise Pollution	3/0/0	3	3	PEC
23.	23CE923	Industrial Wastewater Treatment System	3/0/0	3	3	PEC
24.	23CE924	Rural Water Supply and Onsite Sanitation Systems	3/0/0	3	3	PEC
25.	23CE925	Irrigation and water resources engineering	3/0/0	3	3	PEC

26.	23CE926	Ground water and surface water pollution	3/0/0	3	3	PEC
27.	23CE927	Solid and Hazardous Waste Management	3/0/0	3	3	PEC
28.	23CE928	Environmental impact Assessment and Life Cycle Analysis	3/0/0	3	3	PEC
Vertical V :Infrastructures Engineering						
29.	23CE929	Computer Simulation Applications in Transportation Engineering	3/0/0	3	3	PEC
30.	23CE930	Smart City Planning and Development	3/0/0	3	3	PEC
31.	23CE931	Metro Rail Engineering and Infrastructure	3/0/0	3	3	PEC
32.	23CE932	Remote Sensing and GIS for Civil Engineering	3/0/0	3	3	PEC
33.	23CE933	Smart Construction Materials and Techniques	3/0/0	3	3	PEC
34.	23CE934	Highway Pavement Design and Evaluation	3/0/0	3	3	PEC
35.	23CE935	Coastal Engineering	3/0/0	3	3	PEC
Vertical VI : Diversified Courses						
36.	23CE936	Plumbing (Water and Sanitation)	3/0/0	3	3	PEC
37.	23CE937	Applications of Sensors and IoT in Civil Engineering	3/0/0	3	3	PEC
38.	23CE938	Building Services and Management	3/0/0	3	3	PEC
39.	23CE939	Valuation of Real Properties	3/0/0	3	3	PEC
40.	23CE940	Nanotechnology in Civil Engineering	3/0/0	3	3	PEC
41.	23CE941	Airport and Harbour Engineering	3/0/0	3	3	PEC
42.	23CE942	Robotics and Automation in Civil Engineering	3/0/0	3	3	PEC

PROJECT WORK (14 Credits)

SL. No.	Course Code	Course Title	L/T/P	Contact hrs./Wk.	C	Cat.
1.	23CE704	Design Comprehensive Project	0/0/4	4	2	PROJ
2.	23CE801	Project Work	0/0/24	24	12	PROJ

EMPLOYABILITY ENHANCEMENT SKILLS (2 Credits)

SL. No.	Course Code	Course Title	Duration	C	Cat.
1.	23EES101	Employability Enhancement Skills (Internship / Training)	2 Weeks	1	EES
2.	23EES102	Employability Enhancement Skills (Internship / Training)	2 Weeks	1	EES

MANDATORY COURSES (Non-credit)

SL. No.	Course Code	Course Title	L/T/P	Contact hrs./Wk.	C	Cat.
1.	23MC101	Induction Programme	3 WEEKS		0	MC
2.	23MC102	Environmental Sciences	2/0/0	2	0	MC
3.	23MC103	Management Organizational Behavior	2/0/0	2	0	MC
4.	23MC112	Civil Engineering – Societal & Global Impact	2/0/0	2	0	MC
5.	23MC113	Professional Practice, Law & Ethics	2/0/0	2	0	MC
6.	23MC114	Disaster Mitigation and Management	2/0/0	2	0	MC
7.	23MC115	Disability, Accessibility and Universal Design	2/0/0	2	0	MC

OPEN ELECTIVE COURSES (6 Credits) [Offered to Other Branches]

SL. No.	Course Code	Course Title	L/T/P	Contact hrs./Wk.	C	Cat.
1.	23CE001	Disaster Management	3/0/0	3	3	OEC
2.	23CE002	Engineering Risk and Uncertainty	3/0/0	3	3	OEC
3.	23CE003	Environmental Pollution and Global issues	3/0/0	3	3	OEC
4.	23CE004	Project Management	3/0/0	3	3	OEC
5.	23CE005	Industrial Safety	3/0/0	3	3	OEC
6.	23CE006	Research Methodology and IPR	3/0/0	3	3	OEC

VALUE ADDED COURSES (Additional credit courses)

SL. No.	Course Code	Course Title	Course Credits
1.	23VA130	Effective Communication Skills	1
2.	23VA101	Building Functional Design using AutoCAD	1
3.	23VA102	Total Station and GPS Surveying	1
4.	23VA103	Arc GIS for Civil Engineers	1
5.	23VA104	Structural Analysis and Design Using STAAD.Pro	1
6.	23VA105	Project Management Using Primavera	1
7.	23VA106	3DBuilding Modeling Using Revit Architecture	1
8.	23VA107	Building Valuation	1