Department of Civil Engg.

Vision: Pursuance for excellence to achieve sustainable development

Mission: To impact training for capacity to tackle various environmental challenges in eco Friendly manner**.**

Programme Educational Objectives (PEO)

1. Develop a professional to pursue career as a Civil Engineer with adequate technical knowledge and skills while using modern tools for problem solving and exhibiting qualities of communication, team membership, and leadership.
2. Develop ability to practice ethically focusing on social relevance, environmental sustainability, optimal solutions and safety of stakeholders.
3. Develop abilities of lifelong learning to continuously strive to enhance decision making abilities to investigate, design and develop complex facilities.

Programme Outcomes (PO)

1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

2. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

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.

8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. Communication: Communicate effectively on complex engineering activities with the engineering community and with 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.

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.

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.

Programme Specific Outcomes (PSO)

1. Able to analyze various Civil Engineering structures and systems by using basic and advanced technologies.
2. Able to design civil engineering facilities and their elements and also use of modern software tools for the same.
3. Able to plan, monitor and supervise construction activities to complete civil engineering facilities satisfactorily.
4. Able to practice as construction professional through ethical practice while focusing on sustainability and economy.

SEMESTER-3								
Category	**Course Code**	**Course Name**	**Teaching Schedule**			**Hours/ Week**	**Credits**	**Duration of Exam (Hrs)**
			L	**T**	**P**			
BS	BSC 201-T	Mathematics –III	3	0	0	3	3	3
ESC	ESC-202-T	Engg. Mechanics	3	0	0	3	3	3
HSMC	HSMC -CVE201-T	Introduction to Civil engg.	3	0	0	3	3	3
PCC	PCC-CVE201-T	Surveying –I	3	0	0	3	3	3
PCC	PCC-CVE203-T	Engg. Geology	3	0	0	3	3	3
PCC	PCC-CVE205-T	Disaster Preparedness & Planning	2	0	0	2	2	3
PCC	PCC-CVE201-P	Surveying –I Lab	0	0	2	2	1	3
PCC	PCC-CVE203-P	Engg. Geology Lab	0	0	2	2	1	3
MC	MC 102-T	Environmental Science	3	0	0	3	0	3
	TOTAL							19

MC-Mandatory Course, which will be a non-credit subject and the student has to get pass marks in order to qualify for the award of degree

SEMESTER-4								
Category	**Course Code**	**Course Name**	**Teaching Schedule**			**Hours/ Week**	**Credits**	**Duration of Exam (Hrs)**
			L	**T**	**P**			
HSMC	HSMC-CVE202-T	Civil Engg- Societal & Global Impact	2	0	0	2	2	3
PCC	PCC-CVE202-T	Introduction to Fluid Mechanics	3	0	0	3	3	3
PCC	PCC-CVE204-T	Structural Analysis –I	3	0	0	3	3	3
PCC	PCC-CVE206-T	Engg Building and Drawing	3	0	0	3	3	3
PCC	PCC-CVE208-T	Environmental Engg.	3	0	0	3	3	3
PCC	PCC-CVE202-P	Introduction to Fluid Mechanics Lab	0	0	2	2	1	3
PCC	PCC-CVE204-P	Structural Analysis –I Lab	0	0	2	2	1	3
PCC	PCC-CVE206-P	Engg Building and Drawing Lab	0	0	2	2	1	3
PCC	PCC-CVE208-P	Environmental Engg. Lab	0	0	2	2	1	3
	TOTAL						18	

Note: The students will have to undergo survey camp within 4 weeks duration during summer vacations which will be evaluated in 5th sem.

SEMESTER-5								
Category	**Course Code**	**Course Name**	**Teaching Schedule**			**Hours/ Week**	**Credits**	**Duration of Exam (Hrs)**
			L	**T**	**P**			
PCC	PCC-CVE301-T	Advanced Fluid mechanics	3	0	0	3	3	3
PCC	PCC-CVE303-T	Structural Analysis-II	3	0	0	3	3	3
PCC	PCC-CVE-305-T	Surveying –II	3	0	0	3	3	3
PCC	PCC-CVE307- T	Design of Concrete	3	0	0	3	3	3

		structures-I						
PCC	PCC-CVE301-P	Advanced Fluid mechanics Lab	0	0	2	2	1	3
PCC	PCC-CVE303-P	Structural Analysis-II	0	0	2	2	1	3
PCC	PCC-CVE305-P	Surveying –II Lab	0	0	2	2	1	3
PCC	PCC-CVE307- P	Design of Concrete structures-I	0	0	2	2	1	3
OE	OEC-I	Open elective -I	3	0	0	3	3	3
HSMC	HSMC 301-T	Economics for Engineers	2	0	0	2	2	3
INT	INT-CVE-301-P	Survey Camp	0	0	0	0	1	3
MC	MC 104-T	Essence of Indian Traditional Knowledge	3	0	0	3	0	3
	TOTAL						22	

NOTE: Assessment of survey camp will be based on presentation/seminar, viva-voce, report and field work at the end of 4th sem.

OEC-I is to be offered by other Departments.

SEMESTER-6

Category	Course Code	Course Name	Teaching Schedule			Hours/ Week	Credits	Duration of Exam (Hrs)
			L	T	P			
PCC	PCC-CVE302-T	Transportation Engg.-I	3	0	0	3	3	3
PCC	PCC-CVE304-T	Sewerage and Sewage Treatment	2	0	0	2	2	3
PCC	PCC-CVE306-T	Soil Mechanics	3	0	0	3	3	3
PCC	PCC-CVE308-T	Design of Steel Structures-I	3	0	0	3	3	3
PCC	PCC-CVE302-P	Transportation Engg.-I Lab	0	0	2	2	1	3
PCC	PCC-CVE304-P	Sewerage and Sewage Treatment Lab	0	0	2	2	1	3
PCC	PCC-CVE306-P	Soil Mechanics lab	0	0	2	2	1	3
PE	PEC-I	Program Elective -I	3	0	0	3	3	3
OE	OEC-II	Open elective -II	3	0	0	3	3	3
HSMC	HSMC –302-T	Fundamentals of management for Engineers	2	0	0	2	2	3
	TOTAL						22	

Note: At the end of 6th sem, each student will undergo 4 to 6 weeks Internship/Practical Training -II in an industry/Research Institute.

OEC-II is to be offered by other Departments.

SEMESTER-7

Category	Course Code	Course Name	Teaching Schedule			Hours/ Week	Credits	Duration of Exam (Hrs)
			L	T	P			
PCC	PCC-CVE401-T	Estimation, Costing and Valuation	3	0	0	3	3	3
PCC	PCC-CVE403-T	Transportation Engg.-II	3	0	0	3	3	3

PCC	PCC-CVE405-T	Foundation engineering	3	0	0	3	3	3
PE	PEC-II	Program Elective -II	3	0	0	3	3	3
PE	PEC-III	Program Elective -III	3	0	0	3	3	3
OE	OEC-III	Open elective -III	3	0	0	3	3	3
PROJ*	PROJ-CVE401-P	PROJECT -I	0	0	8	8	4	3
INT**	INT-CVE-401-P	Industrial Training-II	0	0	2	2	1	3
		TOTAL					23	3

NOTE:

*** The project should be initiated by the student in the beginning of 7th sem and will be evaluated at the end of the semester on the basis of a presentation delivered, viva-voce and report by external examiner**

****Assessment of Industrial Training-II will be based on presentation/seminar, viva-voce, report and certificate for the practical training taken at the end of 4th sem.**

***** A viva of the students will be taken by external examiner (Principal/Director/Professor/or any senior Person with Experience more than 10 years) at the end of the semester.**

OEC-III is to be offered by other Departments

SEMESTER-8

Category	Course Code	Course Name	Teaching Schedule			Hours/ Week	Credits	Duration of Exam (Hrs)
			L	T	P			
PCC	PCC-CVE402-T	Construction Engg. & Management	3	0	0	3	3	3
PCC	PCC-CVE404-T	Hydrology and Water Resources	3	0	0	3	3	3
PE	PEC-IV	Program Elective -IV	3	0	0	3	3	3
PE	PEC-V	Program Elective -V	3	0	0	3	3	3
PROJ*	PROJ-CVE402-P	PROJECT-II	0	0	10	10	5	3
PROJ	PROJ-CVE404-P	SEMINAR	0	0	2	2	1	3
	TOTAL						18	

NOTE: * The project should be initiated by the student in continuation of the 7th sem and will be evaluated at the end of the 8th semester on the basis of its implementation (software/hardware), presentation delivered, viva-voce and report by external examiner and chairperson

Program Elective-I	
1.Air & Noise Pollution Control	PEC-CVE350-T
2.Solid and Hazardous Waste Management	PEC-CVE351-T
3. Environmental Impact Assessment and Life Cycle Analyses	PEC-CVE352-T
. 4. Water and Air Quality Modelling	PEC-CVE353-T
Any one MOOC Course-Not Studied(to be studied) till now of 3 credits	
Program Elective-II	
1. Pavement Design	PEC-CVE450-T
2. Geometric Design of Highways	PEC-CVE451-T
3. Traffic Engg. & Management	PEC-CVE452-T
Any one MOOC Course-Not Studied(to be studied) till now of 3 credits	
Program Elective-III	
1. Construction Management	PEC-CVE453-T
2. Advanced Construction Materials	PEC-CVE454-T

3. Advanced Construction Techniques	PEC-CVE455-T
Any one MOOC Course-Not Studied(to be studied) till now of 3 credits	
Program Elective-IV	
1. Design of Concrete Structures-II	PEC-CVE456-T
2. Design of Steel Structures -II	PEC-CVE457-T
3. Advanced Structural Analysis	PEC-CVE458-T
4. Bridge Engineering	PEC-CVE459-T
Any one MOOC Course-Not Studied(to be studied) till now of 3 credits	
Program Elective-V	
1. Irrigation & Design of Hydraulic Structures	PEC-CVE460-T
2. Open Channel Flow	PEC-CVE461-T
3. Groundwater Engg	PEC-CVE462-T
Any one MOOC Course-Not Studied(to be studied) till now of 3 credits	