

Scheme of Instruction, Evaluation

and

Syllabi of

**B.E. [Working Professional]
CIVIL ENGINEERING**

With effect from

Academic Year 2023 - 2024



Estd. 1917

DEPARTMENT OF CIVIL ENGINEERING

UNIVERSITY COLLEGE OF ENGINEERING

(Autonomous)

Osmania University

Hyderabad – 500 007, TS, INDIA



Estd. 1929

INSTITUTION

About the Institution not more than (10 lines)

Vision

The Vision of the institute is to generate and disseminate knowledge through harmonious blending of science, engineering and technology. To serve the society by developing a modern technology in students' heightened intellectual, cultural, ethical and humane sensitivities, fostering a scientific temper and promoting professional and technological expertise.

Mission

- To achieve excellence in Teaching and Research
- To generate , disseminate and preserve knowledge
- To enable empowerment through knowledge and information
- Advancement of knowledge in Engineering, Science and Technology
- Promote learning in free thinking and innovative environment
- Cultivate skills, attitudes to promote knowledge creation
- Rendering socially relevant technical services to the community
- To impart new skills of technology development
- To inculcate entrepreneurial talents and technology appreciation programmes
- Technology transfer and incubation

DEPARTMENT

The Department of Civil Engineering was established in the year 1929 and was the first Department to commence the undergraduate programme at University college of Engineering, Osmania University. Over the years, the Department grew from strength to strength in terms of its academic achievements and infrastructure development. Currently, the Department offers BE in Civil Engineering; ME in Structural Engineering, Geotechnical Engineering, Water Resources Engineering and Transportation Engineering specializations and PhD programs. The Department also has the distinction of enrolling large number of foreign students both at UG and PG level. The Department provides research and consultancy services to various organizations. Several faculty members have received prestigious awards including the Best Teacher awards of the State Government and the Best Publication awards reflecting their teaching abilities and the research contribution. Many of the faculty members are listed in several national and international biographical directories. The faculty has published over 1500 papers in various international and national journals and conferences besides text books and professional books.

Vision

To be as a leading academic department on pace with global standards and contribute to the development of economic, technically viable and useful to societal problems and challenges of civil engineering profession and also contribute to the regional and country's developmental activities.

Mission

- To produce highly competent and capable professionals to face the challenges and provide viable solutions to Civil Engineering problems
- Integration of their knowledge and skills to excel in the profession through continuous learning and contribute to the well being of the society.
- To enhance the technical knowledge, research aptitude to serve the society in highly competent manner.

Programme Educational Objectives (PEO):**PEO1:** Impart basic knowledge in the field of Civil Engineering.**PEO2:** Develop skills to analyze and provide viable solutions to various Civil Engineering problems.**PEO3:** Enhance communication skills and encourage team work.**PEO4:** Prepare Civil Engineering professionals with zeal for research, life-long learning, and work for sustainable development of society with ethics.**PROGRAM OUTCOMES (POs)**

POs	Engineering Graduates will be able to:
PO1	Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	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.
PO3	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.
PO4	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.
PO5	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.
PO6	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.
PO7	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.
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	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.
PO11	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.
PO12	Lifelong learning: Recognize the need for, and have the preparation and ability to engage in Independent and lifelong learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOs)	
PSO1	Analytical Skill : Ability to plan, execute, manage and rehabilitate Civil Engineering systems and processes
PSO2	Entrepreneurial Skill : Ability to become independent practitioners, consultant and entrepreneurs in the field of Civil Engineering

MAPPING OF PEO'S WITH PO'S

S.No.	PEO Statement	M1	M2	M3
PEO 1	Impart basic knowledge in the field of Civil Engineering	3	2	2
PEO 2	Develop skills to analyse and provide viable solutions to various Civil Engineering problems.	3	3	2
PEO 3	Enhance communication skills and encourage team work.	2	2	1
PEO 4	Prepare Civil Engineering professionals with zeal for research, life-long learning, and work for sustainable development of society with ethics.	3	3	3

Rubrics

- 1** : **Weakly mapped**
2 : **Moderately mapped**
3 : **Strongly mapped**

PEO	Justification and rationale of the mapping
PEO 1	Mainly focuses on imparting basic knowledge in Civil Engineering to produce highly competent and capable professionals. Accordingly, the correlations are assigned.
PEO 2	Emphasis is on training to inculcate analytical skills to design various Civil Engineering problems. Hence, the correlations are allotted.
PEO 3	Focuses on personality development, character building and to work with peers. Therefore, the correlations are justified.
PEO 4	Equip with required skills to effectively tackle the real life problems of Civil Engineering in sustainable manner. Therefore, M1 to M3 are in good agreement.

SCHEME OF INSTRUCTION AND EVALUATION
B.E. (CIVIL ENGINEERING) w.e.f. 2023 - 2024

III – Semester

S No	Code	Course Title	Scheme of Instructions			Contact Hrs/ Wk	Scheme of Evaluation			Credits
			L	T	P		Hrs	CIE	SEE	
Theory										
1	BS 301 MT	Engineering Mathematics-III (PDE, Probability & Statistics)	3	0	-	3	3	40	60	3
2	PC 301 CE	Surveying and Geomatics	3	0	-	3	3	40	60	3
3	PC 302 CE	Strength of Materials-I	3	0	-	3	3	40	60	3
4	PC 303 CE	Fluid Mechanics-I	3	0	-	3	3	40	60	3
Practicals										
5	PC 351 CE	Surveying laboratory	-	-	2	2	3	25	50	1
6	PC 352 CE	Fluid Mechanics Laboratory - I	-	-	2	2	3	25	50	1
Total			12		4	16		175	340	14

SCHEME OF INSTRUCTION AND EVALUATION
B.E. (CIVIL ENGINEERING) w.e.f. 2023 - 2024

IV– Semester

S No	Code	Course Title	Scheme of Instructions			Contact Hrs/ Wk	Scheme of Evaluation			Credits
			L	T	P		Hrs	CIE	SEE	
Theory										
1	PC 401 CE	Strength of Materials-II	3	-	-	3	3	40	60	3
2	PC 402 CE	Engineering Geology	3	-	-	3	3	40	60	3
3	PC 403 CE	Fluid Mechanics-II	3	-	-	3	3	40	60	3
4	PC 404 CE	Hydrology and Water Management	3	-	-	3	3	40	60	3
5	PC 405 CE	Construction Engineering and Management	3	-	-	3	3	40	60	3
Practical's										
6	PC 451 CE	Testing Materials lab	-	-	2	2	3	25	50	1
7	PC 452 CE	Fluid Mechanics Lab-II	-	-	2	2	3	25	50	1
Total			15		4	19	21	250	400	17

SCHEME OF INSTRUCTION AND EVALUATION
B.E. (CIVIL ENGINEERING) w.e.f. 2024 - 25

V – Semester

S No	Code	Course Title	Scheme of Instructions			Contact Hrs/ Wk	Scheme of Evaluation			Credits
			L	T	P		Hrs	CIE	SEE	
Theory										
1	PC 501 CE	Concrete Technology	3	0	-	3	3	40	60	3
2	PC 502 CE	Soil Mechanics	3	0	-	3	3	40	60	3
3	PC 503 CE	Water Resource Engineering -I	3	0	-	3	3	40	60	3
4	PC 504 CE	Theory of Structures-I	3	0	-	3	3	40	60	3
5	PC 505 CE	Design of Reinforced Concrete Structures	3	0	0	3	3	40	60	3
Practical's										
6	PC 551 CE	Concrete Technology Lab	-	-	2	2	3	25	50	1
7	PC 552 CE	Soil Mechanics Lab	0	0	2	2	3	25	50	1
Total			15		4	19	21	250	400	17

**SCHEME OF INSTRUCTION AND EVALUATION
B.E. (CIVIL ENGINEERING) w.e.f. 2024-25**

VI – Semester

S No	Code	Course Title	Scheme of Instructions			Contact Hrs/ Wk	Scheme of Evaluation		Credits
			L	T	P		CIE	SEE	
1	PC 601 CE	Environmental Engineering	3	-	-	3	40	60	3
2	PC 602 CE	Theory of Structures-II	3	-	-	3	40	60	3
3	PC 603 CE	Transportation Engineering	3	-	-	3	40	60	3
4	PC 604 CE	Design of Steel Structures	3	-	-	3	40	60	3
5	PC 605 CE	Water Resource Engineering -II	3	-	-	3	40	60	3
Practical's									
6	PC 651 CE	Environmental Engg. lab	-	-	2	2	25	50	1
7	PC 652 CE	Transportation Engg. Lab	-	-	2	2	25	50	1
8	PW 651 CE	Mini Project	-	-	4	4	50	-	3
			15		08	23	300	400	20

SCHEME OF INSTRUCTION AND EVALUATION
B.E. (CIVIL ENGINEERING) w.e.f. 2025-26

VII – Semester

S. No.	Course Code	Course Title	Scheme of Instruction			Contact hr/week	Scheme of Evaluation		Credits
			L	T	P		CIE	SEE	
1	PC 701 CE	Estimation Costing and Specifications	3	-	-	3	40	60	3
2	PC 702 CE	SEDD-I (Concrete)	3	-	-	3	40	60	3
3	PC 703 CE	Foundation Engineering	3	-	-	3	40	60	3
4	PC 704 CE	SEDD-II (Steel)	3	-	-	3	40	60	3
5	PE – I	Professional Elective – I	3	-	-	3	40	60	3
Practical's									
6	PC 752 CE	Computer Applications in Civil Engineering Lab	-	-	3	3	25	50	1.5
7	PC 753 CE	Computation & Simulation Lab	-	-	3	3	25	50	1.5
8	PW 762 CE	Project Phase - I	-	-	6	12	50	-	3
			15	-	12	27	275	350	22

SCHEME OF INSTRUCTION AND EVALUATION
B.E. (CIVIL ENGINEERING) w.e.f. 2025-26

VIII – Semester

S. No.	Course Code	Course Title	Scheme of Instruction			Contact hr/ week	Scheme of Evaluation		Credits
			L	T	P		CIE	SEE	
1	PE – II	Professional Elective - II	3	-	-	3	40	60	3
2	PE – III	Professional Elective - III	3	-	-	3	40	60	3
3	PE – IV	Professional Elective - IV	3	-	-	3	40	60	3
4	OE – I	Open Elective - I	3	-	-	3	40	60	3
5	PW 851 CE	Project Phase - II	-	-	12	12	50	100	6
Total			12	-	12	24	170	280	18

Credit Summary

Semester	III	IV	V	VI	VII	VIII	Total
Credits	14	17	17	20	22	18	108

