DEPARTMENT OF CIVIL ENGINEERING

CURRICULUM

M.Tech Programme
in

INFRASTRUCTURE ENGINEERING AND TECHNOLOGY

In partnership with

May 2026

The Program Educational Objectives (PEOs)

PEO1	Students will be able to build successful professional careers in infrastructure engineering by applying advanced technical knowledge and industry practices.
PEO2	Students will be able to contribute to sustainable and responsible infrastructure development through ethical practice and lifelong learning.

Program Outcomes (POs) and Program Specific Outcomes (PSOs)

PO1	An ability to independently carry out research/investigation and development work to solve practical problems.
PO2	An ability to write and present a substantial technical report/document.
PO3	An ability to demonstrate a degree of mastery over the area as per the specialization of the programme. The mastery should be at a level higher than the requirements in the appropriate bachelor programme.
PSO1	Students will be able to analyse and design infrastructure systems using advanced engineering principles and industry-oriented practices.
PSO2	Students will be able to apply digital technologies and lifecycle thinking for effective infrastructure project delivery.

CURRICULUM

Total credits for completing M.Tech in Infrastructure Engineering and Technology is 70, excluding the non-credit audit course requirement.

Course Categories and Credit Requirements

Sl. No.	Course Category	Abbreviation	Credits
1	Programme Core	PC	16
2	Programme Lab Embedded Theory	PLET	20
3	Programme Elective Theory	PET	12
4	Research Methodology / Research Seminar	RM/RS	4
5	Interdisciplinary Elective	IDE	3
6	Internship	INT	1
7	Dissertation / Project Work	PR	14
	Total		70
8	Audit Course	AC	0

L: Lecture; T: Tutorial; J: Project; P: Practical/Laboratory; S: Self-learning and Team Work. Each unit is considered as one hour per week as per the academic structure.

Semester-wise Credit Summary

Sl. No.	Semester	Credits
1	Semester I	24
2	Semester II	24
3	Semester III	12
4	Semester IV	10
	Total	70

Programme Structure

Semester I

Sl. No.	Slot	Course Code	Course Title	L-T-J-P-S	Credits	Category
1	A	M260103/CE100A	Theory of Elasticity	3-1-0-0-4	4	PC
2	B	M260103/CE100B	Sustainable Design of Buildings	3-1-0-0-4	4	PC
3	C	M260103/CE110C	Concrete Building System Design	3-0-0-2-5	5	PLET
4	D	M260103/CE110D	Underground Infrastructure: Pile Foundations and Tunnels	3-0-0-2-5	5	PLET
5	E	M260103/CE11XE	Program Elective I	3-1-0-0-4	4	PET
6	K	M260904/CN100K	Research Methodology and Ethics	2-0-0-0-2	2	RM
7	L	M260103/CN17XL	Audit Course	0-0-0-0-0	0	AC
			Total		24	--

Semester II

Sl. No.	Slot	Course Code	Course Title	L-T-J-P-S	Credits	Category
1	A	M260103/CE200A	Finite Elements Analysis	3-1-0-0-4	4	PC
2	B	M260103/CE210B	Steel Buildings Design and Practices	3-0-0-2-5	5	PLET
3	C	M260103/CE210C	Building Information Modelling in Construction	3-0-0-2-5	5	PLET
4	D	M260103/CE21XD	Program Elective II	3-1-0-0-4	4	PET
5	E	M260103/CE22XE	Program Elective III	3-1-0-0-4	4	PET
6	K	M260103/CE200K	Research Seminar	2-0-0-0-2	2	RS
			Total		24	--

Semester III

Sl. No.	Slot	Course Code	Course Title	L-T-J-P-S	Credits	Category
1	A	M260103/CE300A	Design of Pre-Engineered Buildings	2-0-0-2-4	4	PC
2	M	M260103/CE300M	AI/ML in Civil Engineering	1-0-0-2-3	3	IDE
3	N	M260103/CE340N	Internship	0-0-0-0-2	1	INT
4	K	M260103/CE300K	Dissertation / Project Phase I	0-0-4-0-4	4	PR
			Total		12	--

Semester IV

Sl. No.	Slot	Course Code	Course Title	L-T-J-P-S	Credits	Category
1	K	M260103/CE400K	Dissertation / Project Phase II	0-0-4-0-16	10	PR
			Total		10	--

List of Program Electives

Sl. No.	Course Code	Course Title	L-T-J-P-S	Credits	Semester / Basket
1	M260103/CE111E	Advanced Structural Analysis	3-1-0-0-4	4	Semester I / PET I
2	M260103/CE112E	Design and Construction of Hydropower Structures	3-1-0-0-4	4	Semester I / PET I
3	M260103/CE113E	Advanced Concrete and Steel Structures	3-1-0-0-4	4	Semester I / PET I
4	M260103/CE211D	Precast Construction - Members and Systems	3-1-0-0-4	4	Semester II / PET II
5	M260103/CE212D	Bridge Engineering Design Practices	3-1-0-0-4	4	Semester II / PET II
6	M260103/CE213D	Geotechnical System for Infrastructures	3-1-0-0-4	4	Semester II / PET II
7	M260103/CE221E	Rehabilitation and Health Monitoring of Structures	3-1-0-0-4	4	Semester II / PET III
8	M260103/CE222E	Project Management for Professionals	3-1-0-0-4	4	Semester II / PET III
9	M260103/CE223E	Construction Planning and Scheduling	3-1-0-0-4	4	Semester II / PET III

List of Audit Courses

Sl. No.	Course Name	Suggested Evaluation Mode
1	Design Thinking	Presentation
2	Academic Writing	Presentation
3	SDG	Presentation
4	Language	NPTEL / Certification