



VINAYAKA MISSION'S RESEARCH FOUNDATION

(Deemed to be University under section 3 of the UGC Act 1956)

MASTER OF ENGINEERING/TECHNOLOGY (ME / M.Tech.)

DEGREE PROGRAMME – M.E. CONSTRUCTION ENGINEERING AND MANAGEMENT

FULL TIME

CURRICULUM AND SYLLABI

CHOICE BASED CREDIT SYSTEM (CBCS)

UNDER FACULTY OF ENGINEERING AND TECHNOLOGY

(Semester I to IV)

REGULATIONS 2025

(FOR THE STUDENTS ADMITTED FROM 2025 ONWARDS)

Department of Civil Engineering
PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PEO 1	Graduates will perform as professional engineers in the various fields of Civil Engineering.
PEO 2	Graduates will perform well in their specialized field and also be trained in teamwork and leadership positions
PEO 3	Graduates will pursue lifelong learning in their specialized fields of Civil Engineering.
PEO 4	Graduates will exhibit entrepreneurship qualities.
PEO 5	Graduates will contribute to the development of the profession, nation, and society.

PROGRAM SPECIFIC OUTCOMES (PSOs)

To achieve the mission of the program, Civil Engineering graduates will be able:

PSO 1	To work independently as well as in a team to formulate, design, and execute solutions for engineering problems and also analyze and synthesize technical data for application to product, process, system design, and development.
PSO 2	To understand and contribute towards social and environmental issues, following professional ethics and codes of conduct and embrace lifelong learning for continuous improvement.
PSO 3	To develop expertise in the use of modern engineering tools, careers in industries and research, and demonstrate entrepreneurial skills.

PROGRAMME OUTCOMES(POs)

Engineering Graduates will be able to:

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	Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor's program.

M.E. - Choice Based Credit System - 2025 onwards

Regulation: R 2025 Name of the Board: Civil Engineering

Name of the Program: M.E. – Construction Engineering and Management (Full Time - Regular)

CREDIT STRUCTURE OF POST GRADUATE ENGINEERING PROGRAM – REGULAR

Sl. No.	Category of Courses	Types of Courses	Suggested Breakup of Credits (min-max)	
1.	A. Foundation Courses (5)	Mathematics/Applied Mathematics	3	
		Research Methodology and IPR	2	
2.	B. Professional Core Courses (32)	Core Courses	32	
3.	C. Elective Courses (19)	Professional electives	15	
		Open Elective	Interdepartmental Open Electives	3
			University Multidisciplinary Open Electives	1
4.	D. Employability Enhancement Courses and courses for presentation of technical skills related to the specialization (19)	Project work phase I	6	
		Project work phase II	12	
		Internship	1	
5.	E. Mandatory Courses (2)**	1. English for Research Paper Writing 2. Personality Development Through Life Enlighten Skills	One Credit Course	
Minimum Credits to be earned			77	
** The credits earned in category, 'E' Courses will not be counted in CGPA calculation				

A. Foundation Courses									
S. No.	CODE	COURSE	OFFERING DEPT.	CATEGORY	L	T	P	C	PREREQUISITE
1.	41425B01	Statistical Methods for Engineers	MATH	FC-BS	2	1	0	3	NIL
2.	41425H01	Research Methodology and IPR	CIVIL	FC-HS	2	0	0	2	NIL
Total Credits								5	
B. Professional Courses (32)									
Core courses									
S. No.	CODE	COURSE	OFFERING DEPT.	CATEGORY	L	T	P	C	PREREQUISITE
1	41425C01	Construction Equipment and Management	CIVIL	CC	3	1	0	4	NIL
2	41425C02	Project Formulation and Appraisal	CIVIL	CC	3	1	0	4	NIL
3	41425C03	Construction Planning, Scheduling and Control	CIVIL	CC	3	1	0	4	NIL
4	41425C04	Advanced Construction Techniques	CIVIL	CC	3	1	0	4	NIL
5	41425C05	Quality Control and Assurance in Construction	CIVIL	CC	3	1	0	4	NIL
6	41425C06	Application of BIM in Construction Management	CIVIL	CC	3	1	0	4	NIL
7	41425C07	Resource Management and Control in Construction	CIVIL	CC	3	1	0	4	NIL
8	41425C81	Advanced Construction Engineering Laboratory	CIVIL	CC	0	0	4	2	NIL
9	41425C82	Construction Management Laboratory	CIVIL	CC	0	0	4	2	NIL
Total Credits								32	

C. Elective Courses (19)

Professional Electives (15)

S. No.	CODE	COURSE	OFFERING DEPT.	CATEGORY	L	T	P	C	PREREQUISITE
1	41425P01	Contract Laws and Regulations	CIVIL	EC-PS	3	0	0	3	NIL
2	41425P02	System Integration in Construction	CIVIL	EC-PS	3	0	0	3	NIL
3	41425P03	Energy Efficient Buildings	CIVIL	EC-PS	3	0	0	3	NIL
4	41425P04	Construction Economics and Financial Management	CIVIL	EC-PS	3	0	0	3	NIL
5	41425P05	Construction Personnel Management	CIVIL	EC-PS	3	0	0	3	NIL
6	41425P06	Business Economics and Finance Management	CIVIL	EC-PS	3	0	0	3	NIL
7	41425P07	Project Safety Management	CIVIL	EC-PS	3	0	0	3	NIL
8	41425P08	Maintenance And Rehabilitation of Structures	CIVIL	EC-PS	3	0	0	3	NIL
9	41425P09	Quantitative Techniques in Construction Management	CIVIL	EC-PS	3	0	0	3	NIL
10	41425P10	Advanced Concrete Technology	CIVIL	EC-PS	3	0	0	3	NIL
11	41425P11	Human Resources Management in Construction	CIVIL	EC-PS	3	0	0	3	NIL
12	41425P12	Sustainable Construction	CIVIL	EC-PS	3	0	0	3	NIL
13	41425P13	Shoring, Scaffolding and Formwork	CIVIL	EC-PS	3	0	0	3	NIL
14	41425P14	Environmental Impact Assessment For Construction Engineers	CIVIL	EC-PS	3	0	0	3	NIL
15	41425P15	Organizational Behaviour	CIVIL	EC-PS	3	0	0	3	NIL
16	41425P16	Supply Chain Management and Logistics in Construction	CIVIL	EC-PS	3	0	0	3	NIL
17	41425P17	Advanced Data Analysis	CIVIL	EC-PS	3	0	0	3	NIL

		Construction Management							
18	41425P18	Digital Design and Construction	CIVIL	EC-PS	3	0	0	3	NIL
19	41425P19	Modern Construction Methods	CIVIL	EC-PS	3	0	0	3	NIL

Interdepartmental Open Electives (3)

S. No.	CODE	COURSE	OFFERING DEPT.	CATEGORY	L	T	P	C	PREREQUISITE
1	45125O01	Artificial Intelligence and Expert Systems	CSE	OE-EA	3	0	0	3	NIL
2	45125O02	Principles of Cyber Security	CSE	OE-EA	3	0	0	3	NIL
3	43325O01	Bio Memos	ECE	OE-EA	3	0	0	3	NIL
4	41125O01	Industrial Safety	MECH-ISE	OE-EA	3	0	0	3	NIL
5	43425O01	Biomedical Product Design and Development	BME	OE-EA	3	0	0	3	NIL
6	44725O01	Solar and Energy Storage Systems	EEE	OE-EA	3	0	0	3	NIL
7	48125O01	Waste To Energy	BTE	OE-EA	3	0	0	3	NIL
8	41025O01	Agro-Food Systems	BTE	OE-EA	3	0	0	3	NIL
9	44725O02	Smart Cities: Electrical Systems and Technologies	EEE	OE-EA	3	0	0	3	NIL

University Open Electives (1)

S. No.	CODE	COURSE	OFFERING DEPT.	CATEGORY	L	T	P	C	PREREQUISITE
1	40625U01	Dental Hygiene & Quality of Life	DENTISTRY	OE - UOE	1	0	0	1	NIL
2	40625U02	Nutrition for Wellness & Specific Diseases	NURSING	OE - UOE	1	0	0	1	NIL
3	40625U03	Fundamentals of Homoeopathy	HOMOEOPATHY	OE - UOE	1	0	0	1	NIL
4	40625U04	Advertising	ARTS & SCIENCE	OE - UOE	1	0	0	1	NIL

5	40625U05	Teamwork & Collaboration	ARTS & SCIENCE	OE – UOE	1	0	0	1	NIL
6	40625U06	Emotional Intelligence	ARTS & SCIENCE	OE – UOE	1	0	0	1	NIL
7	40625U07	Media Management	ARTS & SCIENCE	OE – UOE	1	0	0	1	NIL
8	40625U08	Exercise Essentials for Physical Fitness	PHYSIOTHERAPY	OE – UOE	0	0	2	1	NIL
9	40625U06	Essential Skills for Medical Emergencies	MEDICINE	OE – UOE	1	0	0	1	NIL
10	40625U10	Medicine Plants in Disease Management	PHARMACY	OE – UOE	1	0	0	1	NIL
11	40625U11	Basic Life Support	ALLIED HEALTH SCIENCES	OE – UOE	1	0	0	1	NIL
12	40625U12	Mallarkhambam	PHYSICAL EDUCATION	OE – UOE	0	0	2	1	NIL
13	40625U13	Silambam	PHYSICAL EDUCATION	OE – UOE	0	0	2	1	NIL
14	40625U14	Basic Fitness Training	PHYSICAL EDUCATION	OE – UOE	0	0	2	1	NIL
15	40625U15	Recreational Games	PHYSICAL EDUCATION	OE – UOE	0	0	2	1	NIL
16	40625U16	Introduction to Law	LAW	OE – UOE	1	0	0	1	NIL
17	40625U17	Fundamentals of Law in Technology and Cyber Space	LAW	OE – UOE	1	0	0	1	NIL
18	40625U18	Foundation Course in Yoga	REHABILITATION AND BEHAVIORAL SCIENCES	OE – UOE	1	0	0	1	NIL
19	40625U19	Introduction to Psychology	REHABILITATION AND BEHAVIORAL SCIENCES	OE – UOE	1	0	0	1	NIL
20	40625U20	Introduction to Public Policy and Governance	LIBERAL ARTS	OE – UOE	1	0	0	1	NIL
21	40625U21	Indian Economy and Development Challenges	LIBERAL ARTS	OE – UOE	1	0	0	1	NIL
22	Course Code will be given after receiving SWAYAM Certificate	Any SWAYAM / MOOC / NPTEL Courses which are not related to the discipline of study of the student can be chosen as an Open Elective in Consultation with the respective Faculty Advisor of the Institution.		OE – UOE	1	0	0	1	NIL

D. Employability Enhancement Courses and Courses for Presentation of Technical Skills Related to the Specialization (19)

S. No.	CODE	COURSE	OFFERING DEPT.	CATEGORY	L	T	P	C	PREREQUISITE
1	41425RP1	Project Work Phase I	CIVIL	EE-P	0	0	12	6	NIL
2	41425RP2	Project Work Phase II	CIVIL	EE-P	0	0	24	12	NIL
3	41425I81	Internship	CIVIL	PI-I	3 Weeks			1	NIL

****E . Mandatory Courses (2)**

S. No.	CODE	COURSE	OFFERING DEPT.	CATEGORY	L	T	P	C	PREREQUISITE
1	44125Z81	English For Research Paper Writing	ENG	MC	0	0	2	1	NIL
2	44125Z82	Personality Development Through Life Enlighten Skills	ENG	MC	0	0	2	1	NIL