

M.E. - CONSTRUCTION ENGINEERING AND MANAGEMENT

**Curriculum &
Syllabus for Semester I and II**

**REGULATIONS 2024
(Academic Year 2024-25 Onwards)**





K.S.R. COLLEGE OF ENGINEERING: TIRUCHENGODE - 637 215

(Autonomous)

DEPARTMENT OF CIVIL ENGINEERING

M.E. – Construction Engineering and Management

(REGULATIONS 2024)

Vision of the Institution

IV	We envision to achieve status as an excellent educational institution in the global knowledge hub, making self-learners, experts, ethical and responsible engineers, technologists, scientists, managers, administrators and entrepreneurs who will significantly contribute to research and environment friendly sustainable growth of the nation and the world.
-----------	---

Mission of the Institution

IM 1	To inculcate in the students self-learning abilities that enable them to become competitive and considerate engineers, technologists, scientists, managers, administrators and entrepreneurs by diligently imparting the best of education, nurturing environmental and social needs.
IM 2	To foster and maintain a mutually beneficial partnership with global industries and institutions through knowledge sharing, collaborative research and innovation.

Vision of the Department / Programme: (ME-Construction Engineering and Management)

DV	To impart knowledge and excellence in Civil Engineering and Technology with global perspectives to our students and to make them ethically strong engineers to create conducive environment.
-----------	--

Mission of the Department / Programme: (ME-Construction Engineering and Management)


DM 1	To promote innovative thinking in the minds of budding engineers and to make the department a centre of excellence in the field of Engineering.
DM 2	To provide knowledge base and moral autonomy to address regional, national and international needs in Civil Engineering.

Programme Educational Objectives (PEOs) : (ME-Construction Engineering and Management)


The graduates of the Programme will be able to	
PEO 1	To impart the concepts and technical education needed for a career in Construction Engineering and management.
PEO 2	To provide students with the knowledge and dexterity to perform effectively in the workplace with the communication skills needed to deal with fellow workers, clients and public.
PEO 3	To promote a strong sense of ethics, professionalism, a respect for diversity and a knowledge of contemporary professional, social and global issues.

Programme Outcomes (POs) of ME–CONSTRUCTION ENGINEERING AND MANAGEMENT

Program Outcomes (POs)	
M.E. Construction Engineering and Management 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 program.
Program Specific Outcomes (PSOs)	
PSO1	Design, integrated and administrate new construction problems using technology and literature.
PSO2	Contribute core Universal values in the field of construction management and social good in the community.


		K.S.R. COLLEGE OF ENGINEERING (Autonomous) (Approved by AICTE & Affiliated to Anna University) K.S.R. Kalvi Nagar, Tiruchengode - 637 215							CURRICULUM PG R - 2024		
Department		Department of Civil Engineering									
Programme		M.E – Construction Engineering and Management									
SEMESTER I											
S.No	Course Code	Course Title	Category	Periods/ Week				Credit	Max. Marks		
				L	T	P	Tot		CA	ES	Tot
THEORY COURSES											
1	CN24T11	Modern Construction Materials	PCC	3	0	0	3	3	40	60	100
2	CN24T12	Construction Equipment	PCC	3	0	0	3	3	40	60	100
3	CN24T13	Contract Laws and Regulations	PCC	3	0	0	3	3	40	60	100
4	MA24T11	Statistical Methods and Queuing Theory	FC	3	0	0	3	3	40	60	100
5		Professional Elective - I	PEC	3	0	0	3	3	40	60	100
6		Professional Elective - II	PEC	3	0	0	3	3	40	60	100
LABORATORY COURSES											
7	CN24P11	Construction Engineering Laboratory	PCC	0	0	4	4	2	60	40	100
8	CN24P12	Technical Presentation - I	PCC	0	0	2	2	1	60	40	100
TOTAL				18	0	6	24	21	800		

SEMESTER II											
S.No	Course Code	Course Title	Category	Periods/ Week				Credit	Max. Marks		
				L	T	P	Tot		CA	ES	Tot
THEORY COURSES											
1	CN24T20	Research Methodology and Intellectual Property Rights	PCC	3	0	0	3	3	40	60	100
2	CN24T21	Advanced Construction Techniques	PCC	3	0	0	3	3	40	60	100
3	CN24T22	Project Formulation and Appraisal	PCC	3	0	0	3	3	40	60	100
4	CN24T23	Construction Planning, Scheduling and Control	PCC	3	0	0	3	3	40	60	100
5		Professional Elective - III	PEC	3	0	0	3	3	40	60	100
6		Professional Elective - IV	PEC	3	0	0	3	3	40	60	100
LABORATORY COURSES											
7	CN24P21	Advanced Computing Techniques Laboratory	PCC	0	0	4	4	2	60	40	100
8	CN24P22	Technical Presentation - II	PCC	0	0	2	2	1	60	40	100
TOTAL				18	0	6	24	21	800		

		K.S.R. COLLEGE OF ENGINEERING (Autonomous) (Approved by AICTE & Affiliated to Anna University) K.S.R. Kalvi Nagar, Tiruchengode– 637 215						CURRICULUM PG R – 2024			
Department		Department of Civil Engineering									
Programme		M.E – Construction Engineering and Management									
SEMESTER III											
S.No	Course Code	Course Title	Category	Periods/ Week				Credit	Max. Marks		
				L	T	P	Tot		CA	ES	Tot
THEORY COURSES											
1	CN24T24	Construction Project Management	PCC	3	0	0	3	3	40	60	100
2		Professional Elective -V	PEC	3	0	0	3	3	40	60	100
3		Open Elective	OEC	3	0	0	3	3	40	60	100
LABORATORY COURSES											
4	CN24P31	Project Work – Phase I	EEC	0	0	12	12	6	60	40	100
5	CN24P32	Practical Training*	EEC	0	0	20	20	1	60	40	100
AUDIT COURSE											
6		Audit Course 1	AC	2	0	0	2	0	-	-	-
TOTAL				11	0	32	43	16	500		

(* Four weeks during second semester vacation)

SEMESTER IV											
S.No	Course Code	Course Title	Category	Periods/ Week				Credit	Max. Marks		
				L	T	P	Tot		CA	ES	Tot
LABORATORY COURSES											
1	CN20P41	Project Work – Phase II	EEC	0	0	24	24	12	60	40	100
TOTAL				0	0	24	24	12	100		
TOTAL NO. OF CREDITS = 70											
TOTAL NUMBER OF CREDITS TO BE EARNED FOR											
AWARD OF THE DEGREE = 70											
Note: FC – Foundation Courses, AC – Audit Courses, PCC – Professional Core Courses, and PEC – Professional Elective Courses, EEC – Employability Enhancement Courses.											

	K.S.R. COLLEGE OF ENGINEERING (Autonomous) (Approved by AICTE & Affiliated to Anna University) K.S.R. Kalvi Nagar, Tiruchengode - 637 215	CURRICULUM PG R - 2024
Department	Department of Civil Engineering	
Programme	M.E – Construction Engineering and Management	

PROFESSIONAL ELECTIVE COURSE (I & II)											
S.No	Course Code	Course Title	Category	Periods/ Week				Credit	Max. Marks		
				L	T	P	Tot		CA	ES	Tot
LABORATORY COURSES											
1	CN24E01	Management information system	PEC	3	0	0	3	3	40	60	100
2	CN24E02	Building Services	PEC	3	0	0	3	3	40	60	100
3	CN24E03	Safety Practices and Management	PEC	3	0	0	3	3	40	60	100
4	CN24E04	Business Economics and Finance Management	PEC	3	0	0	3	3	40	60	100
5	CN24E05	Pavement Engineering	PEC	3	0	0	3	3	40	60	100
6	CN24E06	Quantitative Techniques in Management	PEC	3	0	0	3	3	40	60	100
7	CN24E07	Automation in Construction Industry	PEC	3	0	0	3	3	40	60	100
8	CN24E08	Supply Chain Management	PEC	3	0	0	3	3	40	60	100
9	CN24E09	Human Resources Management in Construction	PEC	3	0	0	3	3	40	60	100
10	CN24E10	Risk and Due Diligence	PEC	3	0	0	3	3	40	60	100

PROFESSIONAL ELECTIVE COURSE (III & IV)											
S.No	Course Code	Course Title	Category	Periods/ Week				Credit	Max. Marks		
				L	T	P	Tot		CA	ES	Tot
1	CN24E11	GIS in Construction Engineering and Management	PEC	3	0	0	3	3	40	60	100
2	CN24E12	Modern Structural Materials and System Design	PEC	3	0	0	3	3	40	60	100
3	CN24E13	Personnel Management in Construction	PEC	3	0	0	3	3	40	60	100
4	CN24E14	Fundamentals of Entrepreneurship	PEC	3	0	0	3	3	40	60	100
5	CN24E15	Energy Conservation Techniques in Building Construction and Maintenance	PEC	3	0	0	3	3	40	60	100

6	CN24E16	Tall Structures	PEC	3	0	0	3	3	40	60	100
7	CN24E17	Infrastructure Development and Bot, Boot Projects	PEC	3	0	0	3	3	40	60	100
8	CN24E18	Urban Planning and Sustainability	PEC	3	0	0	3	3	40	60	100
9	CN24E19	Value Engineering in Construction	PEC	3	0	0	3	3	40	60	100
10	CN24E20	Building Acoustics and Noise control	PEC	3	0	0	3	3	40	60	100

PROFESSIONAL ELECTIVE COURSE (V)

S.No	Course Code	Course Title	Category	Periods/ Week				Credit	Max. Marks		
				L	T	P	Tot		CA	ES	Tot
1	CN24E21	Prefabricated Structures	PEC	3	0	0	3	3	40	60	100
2	CN24E22	Computer Application in Construction Engineering and Planning	PEC	3	0	0	3	3	40	60	100
3	CN24E23	Quality Control and Assurance in Construction	PEC	3	0	0	3	3	40	60	100
4	CN24E24	Resource Management and Control in Construction	PEC	3	0	0	3	3	40	60	100
5	CN24E25	Shoring, Scaffolding and Formwork	PEC	3	0	0	3	3	40	60	100

AUDIT COURSES (SEMESTER – III)

Sl. No.	Course Code	Course Name	Category	Hours/ Week				Credit	Maximum Marks		
				L	T	P	Tot		C	CA	ES
THEORY COURSES											
1.	AX24A01	Disaster Management	AC	2	0	0	2	0	-	-	-
2.	AX24A02	Value Education	AC	2	0	0	2	0	-	-	-
3.	AX24A03	Constitution of India	AC	2	0	0	2	0	-	-	-

FOUNDATION COURSES (FC)

Sl. No.	Course Code	Course Name	Category	Hours/Week				Credit	Maximum Marks		
				L	T	P	Tot		C	CA	ES
1.	MA24T11	Statistical Methods and Queuing Theory	FC	3	0	0	3	3	40	60	100

PROFESSIONAL CORE COURSES (PCC)											
Sl. No.	Course Code	Course Name	Category	Hours/Week				Credit	Maximum Marks		
				L	T	P	Tot		C	CA	ES
1.	CN24T11	Modern Construction Materials	PCC	3	0	0	3	3	40	60	100
2.	CN24T12	Construction Equipment	PCC	3	0	0	3	3	40	60	100
3.	CN24T13	Contract Laws and Regulations	PCC	3	0	0	3	3	40	60	100
4.	CN24P11	Construction Engineering Laboratory	PCC	0	0	4	4	2	60	40	100
5.	CN24P12	Technical Presentation - I	PCC	0	0	2	2	1	60	40	100
6.	CN24T20	Research Methodology and Intellectual Property Rights	PCC	3	0	0	3	3	40	60	100
7.	CN24T21	Advanced Construction Techniques	PCC	3	0	0	3	3	40	60	100
8.	CN24T22	Project Formulation and Appraisal	PCC	3	0	0	3	3	40	60	100
9.	CN24T23	Construction Planning, Scheduling and Control	PCC	3	0	0	3	3	40	60	100
10.	CN24TP21	Advanced Computing Techniques Laboratory	PCC	0	0	4	4	2	60	40	100
11.	CN24TP22	Technical Presentation - II	PCC	0	0	2	2	1	60	40	100
12.	CN24T24	Construction Project Management	PCC	3	0	0	3	3	40	60	100

PROFESSIONAL ELECTIVE COURSES (PEC)											
Sl. No.	Course Code	Course Name	Category	Hours/Week				Credit	Maximum Marks		
				L	T	P	Tot		C	CA	ES
1.	CN24E01	Management information system	PEC	3	0	0	3	3	40	60	100
2.	CN24E02	Disaster management	PEC	3	0	0	3	3	40	60	100
3.	CN24E03	Safety Practices and Management	PEC	3	0	0	3	3	40	60	100
4.	CN24E04	Business Economics and Finance Management	PEC	3	0	0	3	3	40	60	100
5.	CN24E05	Pavement Engineering	PEC	3	0	0	3	3	40	60	100
6.	CN24E06	Quantitative Techniques in Management	PEC	3	0	0	3	3	40	60	100
7.	CN24E07	Automation in Construction Industry	PEC	3	0	0	3	3	40	60	100
8.	CN24E08	Supply Chain Management	PEC	3	0	0	3	3	40	60	100
9.	CN24E09	Human Resources Management In Construction	PEC	3	0	0	3	3	40	60	100
10.	CN24E10	Risk and Due Diligence	PEC	3	0	0	3	3	40	60	100
11.	CN24E11	GIS in Construction Engineering and Management	PEC	3	0	0	3	3	40	60	100
12.	CN24E12	Modern Structural Materials and System Design	PEC	3	0	0	3	3	40	60	100
13.	CN24E13	Personnel Management in Construction	PEC	3	0	0	3	3	40	60	100
14.	CN24E14	Fundamentals of Entrepreneurship	PEC	3	0	0	3	3	40	60	100
15.	CN24E15	Energy Conservation Techniques in Building Construction and Maintenance	PEC	3	0	0	3	3	40	60	100
16.	CN24E16	Tall Structures	PEC	3	0	0	3	3	40	60	100
17.	CN24E17	Infrastructure Development and Bot, Boot Projects	PEC	3	0	0	3	3	40	60	100
18.	CN24E18	Urban Planning and Sustainability	PEC	3	0	0	3	3	40	60	100
19.	CN24E19	Value Engineering in Construction	PEC	3	0	0	3	3	40	60	100
20.	CN24E20	Building Acoustics and Noise control	PEC	3	0	0	3	3	40	60	100
21.	CN24E21	Prefabricated Structures	PEC	3	0	0	3	3	40	60	100
22.	CN24E22	Computer Application in Construction Engineering and Planning	PEC	3	0	0	3	3	40	60	100
23.	CN24E23	Quality Control and Assurance in Construction	PEC	3	0	0	3	3	40	60	100
24.	CN24E24	Resource Management and Control in Construction	PEC	3	0	0	3	3	40	60	100
25.	CN24E25	Shoring, Scaffolding and Formwork	PEC	3	0	0	3	3	40	60	100

EMPLOYABILITY ENHANCEMENT COURSES (EEC)											
Sl. No.	Course Code	Course Name	Category	Hours/Week				Credit	Maximum Marks		
				L	T	P	Tot		C	CA	ES
1.	CN24P31	Project Work – Phase I	EEC	0	0	12	12	6	60	40	100
2.	CN24P32	Practical Training*	EEC	0	0	20	20	1	60	40	100
3.	CN20P41	Project Work – Phase II	EEC	0	0	24	24	16	60	40	100

OPEN ELECTIVE COURSES (OEC)											
Sl. No.	Course Code	Course Name	Category	Hours/Week				Credit	Maximum Marks		
				L	T	P	Tot		C	CA	ES
1.	CN24O31	Energy Efficient Buildings	OEC	3	0	0	3	3	40	60	100
2.	CN24O32	Economics and Finance management in construction	OEC	3	0	0	3	3	40	60	100
3.	CN24O33	Stress Management	OEC	3	0	0	3	3	40	60	100

COURSE COMPONENT SUMMARY

S.No.	Category	Credits Per Semester				Credits Total	Percentage Credits
		I	II	III	IV		
1.	FC	3	-	-	-	3	4
2.	PCC	12	15	3	-	30	43
3.	PEC	6	6	3	-	15	22
4.	EEC	-	-	7	12	19	27
5.	OEC	-	-	3	-	3	4
TOTAL		21	21	16	12	70	100