



MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT

(AN AUTONOMOUS INSTITUTION)

(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)

Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act, 1956

B. Tech – Civil Engineering
Course Structure (R22)
Applicable From 2022-23 Admitted Batch
Structure Breakup

S.No	Category	Breakup of credits (Total 160 credits)
1	Humanities and Social Sciences including Management courses (HSMC)	10
2	Basic Sciences Courses (BS)	20
3	Engineering Sciences courses including Workshop, Drawing basics of electrical/mechanical/computer etc.(ES)	21
4	Professional Core courses (PC)	63
5	Professional Electives (PE)	18
6	Open Electives (OE)	9
7	Project work, Seminar and Internship in industry or elsewhere (PS)	19
8	Mandatory Courses	-
	TOTAL	160

I YEAR I SEMESTER

S. No.	Course Code	Course Title	Course Area	Hours Per Week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	2210001	Matrix Algebra and Calculus	BS	3	1	0	4	40	60	100
2	2210008	Applied Physics	BS	3	1	0	4	40	60	100
3	2210501	Programming for Problem Solving	ES	3	0	0	3	40	60	100
4	2210372	Engineering Workshop	ES	0	1	3	2.5	40	60	100
5	2210010	English for Skill Enhancement	HS	2	0	0	2	40	60	100
6	2210175	Elements of Civil Engineering	PC	0	0	2	1	50	-	50
7	2210071	Applied Physics Laboratory	BS	0	0	3	1.5	40	60	100
8	2210571	Programming for Problem Solving Laboratory	ES	0	0	2	1	40	60	100
9	2210073	English Language and Communication Skills Laboratory	HS	0	0	2	1	40	60	100
10	2210021	Environmental Science	MC	3	0	0	0	-	-	-
	-	Induction Programme	-	-	-	-	-	-	-	-
Total Credits				14	3	12	20	370	480	850

I YEAR II SEMESTER

S. No.	Course Code	Course Title	Course Area	Hours Per Week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	2220002	Differential Equations and Vector Calculus	BS	3	1	0	4	40	60	100
2	2220009	Engineering Chemistry	BS	3	1	0	4	40	60	100
3	2220371	Engineering Drawing Practice	PC	1	0	4	3	40	60	100
4	2220122	Applied Mechanics	PC	3	0	0	3	40	60	100
5	2220123	Surveying	PC	2	0	0	2	40	60	100
6	2220572	Data Structures Laboratory	ES	0	1	2	2	40	60	100
7	2220072	Engineering Chemistry Laboratory	BS	0	0	2	1	40	60	100
8	2220176	Surveying Laboratory - I	PC	0	0	2	1	40	60	100
Total Credits				12	3	10	20	320	480	800

II YEAR I SEMESTER

S. No.	Course Code	Course Title	Course Area	Hours Per Week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	2230124	Building Materials, Construction and Planning	PC	3	0	0	3	40	60	100
2	2230125	Strength of Materials - I	PC	3	1	0	4	40	60	100
3	2230126	Fluid Mechanics	PC	3	1	0	4	40	60	100
4	2230016	Business Economics and Financial Analysis	HSMC	3	0	0	3	40	60	100
5	2230202	Basic Electrical and Electronics Engineering	ES	2	0	0	2	40	60	100
6	2230177	Surveying Laboratory - II	PC	0	1	2	2	40	60	100
7	2230178	Strength of Materials Laboratory	PC	0	0	2	1	40	60	100
8	2230272	Basic Electrical and Electronics Engineering Laboratory	ES	0	0	2	1	40	60	100
9	2230023	Constitution of India	MC	3	0	0	0	-	-	-
Total Credits				17	3	6	20	320	480	800

II YEAR II SEMESTER

S. No.	Course Code	Course Title	Course Area	Hours Per Week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	2240127	Engineering Geology	PC	2	0	0	2	40	60	100
2	2240128	Strength of Materials - II	PC	3	0	0	3	40	60	100
3	2240129	Hydraulics and Hydraulic Machinery	PC	3	0	0	3	40	60	100
4	2240006	Probability and Statistics	BS	3	1	0	4	40	60	100
5	2240503	Python Programming	ES	3	0	0	3	40	60	100
6	2240179	Fluid Mechanics and Hydraulics Machinery Laboratory	PC	0	0	2	1	40	60	100
7	2230180	Computer Aided Drafting Laboratory	PC	0	0	2	1	40	60	100
8	2240573	Python Programming Laboratory	ES	0	0	2	1	40	60	100
9	2240191	Field based Project	PS	0	0	4	2	50	-	50
10	2240022	Gender sensitization	MC	3	0	0	0	-	-	-
Total Credits				17	1	10	20	370	480	850

III YEAR I SEMESTER

S. No.	Course Code	Course Title	Course Area	Hours Per Week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	2250130	Water Resources Engineering	PC	3	0	0	3	40	60	100
2	2250131	Basic Structural Analysis	PC	3	1	0	4	40	60	100
3	2250132	Design of Reinforced Concrete Elements	PC	3	0	0	3	40	60	100
4	-	Professional Elective - I	PE	3	0	0	3	40	60	100
5	-	Open Elective - I	OE	3	0	0	3	40	60	100
6	2250181	Concrete Technology Laboratory	PC	0	0	2	1	40	60	100
7	2250182	Computer Aided Design and Detailing Laboratory	PC	0	0	2	1	40	60	100
8	2250183	Engineering Geology Laboratory	PC	0	0	2	1	40	60	100
9	2250192	Internship *	PS	0	0	0	1	-	100	100
Total Credits				15	1	6	20	320	580	900

III YEAR II SEMESTER

S. No.	Course Code	Course Title	Course Area	Hours Per Week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	2260133	Design of Steel Structures	PC	3	0	0	3	40	60	100
2	2260134	Soil Mechanics	PC	3	0	0	3	40	60	100
3	2260017	Fundamentals of Management	HSMC	3	0	0	3	40	60	100
4	-	Professional Elective – II	PE	3	0	0	3	40	60	100
5	-	Open Elective – II	OE	3	0	0	3	40	60	100
6	2260011	Advanced English Communication Laboratory	HSMC	1	0	0	1	40	60	100
7	2260184	Soil Mechanics Laboratory	PC	0	0	2	1	40	60	100
8	2260185	Civil Engineering Software Laboratory	PC	0	0	2	1	40	60	100
9	2260193	Industrial Oriented Mini Project	PS	0	0	4	2	-	100	100
10	2260024	Intellectual Property Rights	MC	0	2	0	0	-	-	-
Total Credits				16	2	8	20	320	580	900

*Students have to undergo internship in semester break after 2nd year 2nd semester and evaluation is carried out in 3rd year 1st semester.

IV YEAR I SEMESTER

S. No.	Course Code	Course Title	Course Area	Hours Per Week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	2270135	Environmental Engineering	PC	3	0	0	3	40	60	100
2	2270136	Estimation, Costing and Project Management	PC	3	0	0	3	40	60	100
3	2270137	Transportation Engineering	PC	3	0	0	3	40	60	100
4	-	Professional Elective - III	PE	3	0	0	3	40	60	100
5	-	Open Elective - III	OE	3	0	0	3	40	60	100
6	2270186	Environmental Engineering Laboratory	PC	0	0	2	1	40	60	100
7	2270187	Transportation Engineering Laboratory	PC	0	0	2	1	40	60	100
8	2270194	Project Stage – I	PS	0	0	6	3	100	-	100
Total Credits				15	0	10	20	380	420	800

IV YEAR II SEMESTER

S. No.	Course Code	Course Title	Course Area	Hours Per Week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	-	Professional Elective - IV	PE	3	0	0	3	40	60	100
2	-	Professional Elective - V	PE	3	0	0	3	40	60	100
3	-	Professional Elective - VI	PE	3	0	0	3	40	60	100
4	2280195	Technical Seminar	PS	0	0	4	2	100	-	100
5	2280196	Project Stage - II	PS	0	0	18	9	40	60	100
Total Credits				9	0	22	20	260	240	500

PE I - Professional Elective I

S. No	Course Code	Course Title
1	2250141	Concrete Technology
2	2250142	Structural Dynamics and Earthquake Engineering
3	2250143	Pre-Fabricated structures
4	2250144	Introduction to Offshore Structures

PE II - Professional Elective II

S. No	Course Code	Course Title
1	2260145	Indeterminate Structural Analysis
2	2260146	Prestressed concrete
3	2260147	Advanced Structural Design
4	2260148	Introduction to Finite Element Methods

PE III – Professional Elective III

S. No	Course Code	Course Title
1	2270149	Ground Water Hydrology
2	2270150	Design of Hydraulic Structures
3	2270151	Water Shed Management
4	2270152	Water Supply Network

PE IV - Professional Elective IV

S. No	Course Code	Course Title
1	2280153	Railway, Airport and Harbour Engineering
2	2280154	Bridge Engineering
3	2280155	Traffic Engineering
4	2280156	Pavement Analysis and Design

PE V - Professional Elective V

S. No	Course Code	Course Title
1	2280157	Hydrology & Water Resources Engineering
2	2280158	Industrial Waste water Treatment
3	2280159	Waste Management
4	2280160	Environmental Impact Assessment

PE VI - Professional Elective VI

S. No	Course Code	Course Title
1	2280161	Foundation Engineering
2	2280162	Ground Improvement Techniques
3	2280163	Repair and Rehabilitation of Structures
4	2280164	Remote Sensing and GIS

Open Electives

S. No	Course Code	Course Title
1	2250101	Air and Noise Pollution Control
2	2260102	Remote Sensing and GIS
3	2270103	Disaster Management