

**B.E. CIVIL ENGINEERING
I TO VIII SEMESTERS CURRICULUM AND SYLLABI
SEMESTER I**

S.No.	Course Code	Course Title	Course Category	L	T	P	C	TCP	CIA	ESE	TOTAL
THEORY											
1	22MA1101	Matrices and Calculus	BSC	3	1	0	4	4	40	60	100
2	22ME1201	Engineering Drawing	ESC	1	4	0	3	5	40	60	100
THEORY WITH PRACTICAL COMPONENT											
3	22PH1151	Physics for non-circuit Engineering	BSC	2	0	2	3	4	50	50	100
4	22HE1151	English for Engineers	HSC	2	0	2	3	4	50	50	100
5	22IT1151	Python Programming and Practices	ESC	2	0	2	3	4	50	50	100
EMPLOYABILITY ENHANCEMENT COURSES											
6	22HE1071	Universal Human Values	AEC	2	0	0	2	3	40	60	100
7	22HE1072	Entrepreneurship & Innovation	AEC	1	0	0	1	1	100	-	100
MANDATORY COURSE											
8	22MC1091/ 22MC1092	அறிவியல் தமிழ்/ Indian Constitution	MC	2	0	0	0	2	100	0	100
Total				15	5	6	19	27	470	330	800

SEMESTER II

S.No.	Course Code	Course Title	Course Category	L	T	P	C	TCP	CIA	ESE	TOTAL
THEORY											
1	22MA2105	Partial Differential Equation, Fourier Series and Transforms	BSC	3	1	0	4	4	40	60	100
2	22CY2101	Environmental Studies	ESC	2	0	0	2	3	40	60	100
3	22PH2101	Basics of Material Science	BSC	2	0	0	2	3	40	60	100
4	22CE2101	Engineering Mechanics and Solid Mechanics	ESC	3	0	0	3	4	40	60	100
THEORY WITH PRACTICAL COMPONENT											
5	22CY2152	Applied Chemistry	BSC	2	0	2	3	4	50	50	100
6	22HE2151	Effective Technical Communication	HSC	2	0	2	3	4	50	50	100
PRACTICAL											
7	22ME2001	Engineering Practices	ESC	0	0	4	2	2	60	40	100
EMPLOYABILITY ENHANCEMENT COURSES											
8	22HE2071	Design Thinking	AEC	1	0	2	2	2	100	-	100
9	22HE2072	Soft Skills and Aptitude I	AEC	1	0	0	1	1	100	-	100
MANDATORY COURSE											
10	22MC2091 / 22MC2092	தமிழர்மரபு/ Heritage of Tamil	MC	2	0	0	0	2	100	0	100
11	22MC2093	NCC/NSS/YRC/Sports/Clubs Enrolment	MC	All the students shall enroll in any one of the personality and character development programmes and undergo training for about 80 hours							
Total				18	1	10	22	29	620	380	1000

SEMESTER III

S.No.	Course Code	Course Title	Course Category	L	T	P	C	TCP	CIA	ESE	TOTAL
THEORY											
1	22MA3108	Statistics & Numerical Methods	BSC	3	1	0	4	4	40	60	100
2	22CE3201	Basic Building Services	ESC	2	0	0	2	2	40	60	100
3	22CE3202	Construction Materials and Techniques	PCC	3	0	0	3	3	40	60	100
4	22CE3203	Water Supply and Wastewater Engineering	PCC	3	0	0	3	4	40	60	100
THEORY WITH PRACTICAL COMPONENT											
5	22CE3251	Strength of Materials	PCC	3	0	2	4	5	50	50	100
6	22CE3252	Fluid Mechanics	PCC	2	0	2	3	4	50	50	100
PRACTICAL											
7	22CE3001	Water and Wastewater Testing Lab	PCC	0	0	4	2	4	60	40	100
EMPLOYABILITY ENHANCEMENT COURSES											
8	22HE3071	Soft Skills – II	SEC	1	0	0	1	1	100	-	100
9	22CE3072	Computer Aided Building Drawing	AEC	0	0	4	2	4	60	40	100
MANDATORY COURSE											
10	22CE3073	Essence of Indian Traditional Knowledge	MC	2	0	0	0	2	100	-	100
Total				19	1	12	24	31	580	420	1000

SEMESTER IV

S.No.	Course Code	Course Title	Course Category	L	T	P	C	TCP	CIA	ESE	TOTAL
THEORY											
1	22HE4101	IPR and Start-ups	HSC	2	0	0	2	2	40	60	100
2	22CE4201	Structural Analysis	PCC	3	1	0	4	4	40	60	100
3	22CE4202	Concrete Technology	PCC	3	0	0	3	3	40	60	100
4	22CE4203	Highway and Railway Engineering	PCC	3	0	0	3	4	40	60	100
THEORY WITH PRACTICAL COMPONENT											
5	22CE4251	Surveying and Levelling	PCC	2	0	2	3	4	50	50	100
6	22CE4252	Soil Mechanics	PCC	2	0	2	3	4	50	50	100
7	22CE4253	Hydraulic Engineering	PCC	2	0	2	3	4	50	50	100
PRACTICAL											
8	22CE4001	Concrete and Highway Engineering Lab	PCC	0	0	4	2	4	60	40	100
EMPLOYABILITY ENHANCEMENT COURSES											
9	22HE4071	Soft Skills – III	SEC	1	0	0	1	1	100	-	100
Total				18	1	10	24	30	470	430	900

SEMESTER V

S.No.	Course Code	Course Title	Course Category	L	T	P	C	TCP	CIA	ESE	TOTAL
THEORY											
1	22CE5201	Design of RC Elements	PCC	3	1	0	4	4	40	60	100
2	22CE5202	Foundation Engineering	PCC	3	0	0	3	3	40	60	100
3	22CE53XX	Professional Elective - I	PEC	3	0	0	3	3	40	60	100
4	22CE53XX	Professional Elective - II	PEC	3	0	0	3	3	40	60	100
5	22CE53XX	Professional Elective - III	PEC	3	0	0	3	3	40	60	100
THEORY WITH PRACTICAL COMPONENT											
6	22CE5251	Construction Project Management	PCC	3	0	2	4	5	50	50	100
PRACTICAL											
7	22CE5001	Design and Drawing of RC Structures	PCC	0	0	4	2	4	60	40	100
EMPLOYABILITY ENHANCEMENT COURSES											
8	22HE5071	Soft Skills – IV / Foreign Language	SEC	1	0	0	1	1	100	-	100
9	22CE5072	Survey Camp*	SEC	0	0	0	1	0	100	-	100
Total				19	1	6	24	26	510	390	900

*Survey camp of one week has to be undergone by the student during fourth semester vacation.

SEMESTER VI

S.No.	Course Code	Course Title	Course Category	L	T	P	C	TCP	CIA	ESE	TOTAL
THEORY											
1	22CE6201	Design of Steel Elements	PCC	3	1	0	4	4	40	60	100
2	22HE6101	Professional Ethics	HSC	3	0	0	3	3	40	60	100
3	22CE63XX	Professional Elective - IV	PEC	3	0	0	3	3	40	60	100
4	22CE63XX	Professional Elective - V	PEC	3	0	0	3	3	40	60	100
5	22XX64XX	Open Elective - I	OEC	3	0	0	3	3	40	60	100
6	22XX64XX	Open Elective - II	OEC	3	0	0	3	3	40	60	100
PRACTICAL											
7	22CE6001	Design and Drawing of Steel Structures	PCC	0	0	4	2	4	60	40	100
EMPLOYABILITY ENHANCEMENT COURSES											
8	22HE6071	Soft Skills - V	SEC	2	0	0	2	2	100	-	100
Total				20	1	4	23	25	400	400	800

PROFESSIONAL ELECTIVE COURSES: VERTICALS

VERTICAL III Geotechnical Engineering	VERTICAL IV Geo-Informatics	VERTICAL V Transportation Infrastructure	VERTICAL VI Environmental Engineering	VERTICAL VII Water Resources
22CE5307	22CE5310	22CE5313	22CE5316	22CE5319
Geo-Environmental Engineering	Total Station and GPS Surveying	Airports and Harbours	Climate Change Adaptation and Mitigation	Hydrology
22CE5308	22CE5311	22CE5314	22CE5317	22CE5320
Ground Improvement Techniques	Remote Sensing Concepts	Traffic Engineering and Management	Air and Noise Pollution Control Engineering	Ground water Engineering
22CE5309	22CE5312	22CE5315	22CE5318	22CE5322
Soil Dynamics and Machine Foundations	Satellite Image Processing	Urban Planning and Development	Environmental Impact Assessment	Water Resources Systems Engineering
22CE6305	22CE6307	22CE6309	22CE6311	22CE6313
Rock Mechanics	Cartography and GIS	Smart cities	Industrial Wastewater Management	Watershed Conservation and Management
22CE6306	22CE6308	22CE6310	22CE6312	22CE6314
Earth and Earth Retaining Structures	Photogrammetry	Intelligent Transport Systems	Solid and Hazardous Waste Management	Integrated Water Resources Management
22CE7305	22CE7307	22CE7309	22CE7311	22CE7313
Pile Foundation	Airborne and Terrestrial laser mapping	Pavement Engineering	Environmental Policy and Legislations	Urban Water Infrastructure
22CE7306	22CE7308	22CE7310	22CE7312	22CE7314
Tunneling Engineering	Hydrographic Surveying	Transportation planning Process	Environment, Health and Safety	Water Quality and Management

CIA	ESE	TOTAL
40	60	100
40	60	100
40	60	100
40	60	100
40	60	100
60	40	100
100	-	100
360	340	700

A	ESE	TOTAL
	100	200
	100	200

III	Total
10	165

VERTICALI
Structural Engineering

S.No.	Course Code	Course Title	Course Category	L	T	P	C	TCP	CIA	ESE	TOTAL
THEORY											
1	22CE5301	Concrete Structures	PEC	3	0	0	3	3	40	60	100
2	22CE5302	Steel Structures	PEC	3	0	0	3	3	40	60	100
3	22CE5303	Pre-fabricated Structure	PEC	3	0	0	3	3	40	60	100
4	22CE6301	Pre stressed Concrete Structures	PEC	3	0	0	3	3	40	60	100
5	22CE6302	Rehabilitation / Heritage Restoration	PEC	3	0	0	3	3	40	60	100
6	22CE7301	Dynamics and Earthquake Resistant Structures	PEC	3	0	0	3	3	40	60	100
7	22CE7302	Introduction to Finite Element Method	PEC	3	0	0	3	3	40	60	100

VERTICALII
Construction Techniques and Practices

S.No.	Course Code	Course Title	Course Category	L	T	P	C	TCP	CIA	ESE	TOTAL
THEORY											
1	22CE5304	Formwork Engineering	PEC	3	0	0	3	3	40	60	100
2	22CE5305	Construction Equipment and Machinery	PEC	3	0	0	3	3	40	60	100
3	22CE5306	Sustainable Construction and Lean Construction	PEC	3	0	0	3	3	40	60	100
4	22CE6303	Construction Safety and Risk Management	PEC	3	0	0	3	3	40	60	100
5	22CE6304	Advanced Construction Techniques	PEC	3	0	0	3	3	40	60	100
6	22CE7303	Energy Efficient Buildings	PEC	3	0	0	3	3	40	60	100
7	22CE7304	Green Buildings	PEC	3	0	0	3	3	40	60	100

VERTICALIII
Geotechnical Engineering

S.No.	Course Code	Course Title	Course Category	L	T	P	C	TCP	CIA	ESE	TOTAL
THEORY											
1	22CE5307	Geo-Environmental Engineering	PEC	3	0	0	3	3	40	60	100
2	22CE5308	Ground Improvement Techniques	PEC	3	0	0	3	3	40	60	100
3	22CE5309	Soil Dynamics and Machine Foundations	PEC	3	0	0	3	3	40	60	100
4	22CE6305	Rock Mechanics	PEC	3	0	0	3	3	40	60	100
5	22CE6306	Earth and Earth Retaining Structures	PEC	3	0	0	3	3	40	60	100
6	22CE7305	Pile Foundation	PEC	3	0	0	3	3	40	60	100
7	22CE7306	Tunneling Engineering	PEC	3	0	0	3	3	40	60	100

VERTICAL IV
Geo- Informatics

S.No.	Course Code	Course Title	Course Category	L	T	P	C	TCP	CIA	ESE	TOTAL
THEORY											
1	22CE5310	Total Station and GPS Surveying	PEC	3	0	0	3	3	40	60	100
2	22CE5311	Remote Sensing Concepts	PEC	3	0	0	3	3	40	60	100
3	22CE5312	Satellite Image Processing	PEC	3	0	0	3	3	40	60	100
4	22CE6307	Cartography and GIS	PEC	3	0	0	3	3	40	60	100
5	22CE6308	Photogrammetry	PEC	3	0	0	3	3	40	60	100
6	22CE7307	Airborne and Terrestrial laser Mapping	PEC	3	0	0	3	3	40	60	100
7	22CE7308	Hydrographic Surveying	PEC	3	0	0	3	3	40	60	100

VERTICAL V
Transportation Infrastructure

S.No.	Course Code	Course Title	Course Category	L	T	P	C	TCP	CIA	ESE	TOTAL
THEORY											
1	22CE5313	Airports and Harbours	PEC	3	0	0	3	3	40	60	100
2	22CE5314	Traffic Engineering and Management	PEC	3	0	0	3	3	40	60	100
3	22CE5315	Urban Planning and Development	PEC	3	0	0	3	3	40	60	100
4	22CE6309	Smart cities	PEC	3	0	0	3	3	40	60	100
5	22CE6310	Intelligent Transport Systems	PEC	3	0	0	3	3	40	60	100
6	22CE7309	Pavement Engineering	PEC	3	0	0	3	3	40	60	100
7	22CE7310	Transportation planning Process	PEC	3	0	0	3	3	40	60	100

VERTICAL VI
Environmental Engineering

S.No.	Course Code	Course Title	Course Category	L	T	P	C	TCP	CIA	ESE	TOTAL
THEORY											
1	22CE5316	Climate Change Adaptation and Mitigation	PEC	3	0	0	3	3	40	60	100
2	22CE5317	Air and Noise Pollution Control Engineering	PEC	3	0	0	3	3	40	60	100
3	22CE5318	Environmental Impact Assessment	PEC	3	0	0	3	3	40	60	100
4	22CE6311	Industrial Wastewater Management	PEC	3	0	0	3	3	40	60	100
5	22CE6312	Solid and Hazardous Waste Management	PEC	3	0	0	3	3	40	60	100
6	22CE7311	Environmental Policy and Legislations	PEC	3	0	0	3	3	40	60	100
7	22CE7312	Environment, Health and Safety	PEC	3	0	0	3	3	40	60	100

VERTICAL VII
Water Resources

S.No.	Course Code	Course Title	Course Category	L	T	P	C	TCP	CIA	ESE	TOTAL
THEORY											
1	22CE5319	Hydrology	PEC	3	0	0	3	3	40	60	100
2	22CE5320	Groundwater Engineering	PEC	3	0	0	3	3	40	60	100
3	22CE5322	Water Resources Systems Engineering	PEC	3	0	0	3	3	40	60	100
4	22CE6313	Watershed Conservation and Management	PEC	3	0	0	3	3	40	60	100
5	22CE6314	Integrated Water Resources Management	PEC	3	0	0	3	3	40	60	100
6	22CE7313	Urban Water Infrastructure	PEC	3	0	0	3	3	40	60	100
7	22CE7314	Water Quality and Management	PEC	3	0	0	3	3	40	60	100