

PROGRAM STRUCTURE

I SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	201HS1T01	Communicative English		✓		Students are able to demonstrate communication skills to express fluently in both written as well as oral form of language which is very much essential for the career growth
2	201BS1T01	Differential equations and Linear algebra		✓		Students are able to demonstrate problem solving skills by modeling physical phenomenon using ordinary differential equations, system of linear equations in various engineering disciplines.
3	201BS1T02	Engineering Physics				
4	201ES1T01	Building Materials & Construction	✓			Students are able to acquire skills related to various aspects of construction materials enabling them to be employed in constructional sector.
5	201ES1T05	Engineering Graphics		✓		Students are able to acquire skills related to creating technical drawings by displaying from different angles of projection and adding dimensional information.
6	201HS1L01	Communicative English Lab		✓		Students are able to demonstrate technical skills to express fluently in both written as well as oral form of language which is very much essential for the career growth
7	201BS1L01	Engineering Physics Lab				
8	201ES1L01	Engineering Workshop		✓		Students are able to acquire skills related to building various joints in different trades for several applications.
9	201MC1T01	Environmental Science				

II SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
11	201BS2T05	Partial Differential Equations and Vector Calculus		✓		Students are able to demonstrate problem solving skills by modeling physical phenomenon using partial differential equations vector differentiation , vector integration and their applications in various engineering disciplines.
12	201BS2T08	Chemistry of Materials				
13	201ES2T06	Engineering Mechanics		✓		Students are able to acquire skills related to principles of friction, kinetics, kinematics, resolving forces, trusses etc which forms the crux of design sciences.
14	201ES2T08	Programming for Problem Solving Using C	✓			Students are able to acquire skills related to control structures, arrays, string formulas enabling them to be employed in software industry.
15	201ES2T12	Surveying			✓	Students are able to demonstrate competency in the domain of measuring distances and calculate areas enabling them to become a surveyor.
16	201ES2L05	Surveying field Work		✓		Students are able to demonstrate technical skill in the domain of measuring distances and calculate areas training the students to face real time measurements and calculations as surveyors
17	201BS2L05	Engineering Chemistry Lab				
18	201ES2L10	Programming for Problem Solving Using C	✓			Students are able to acquire skills related to basic programming using C, enabling them to be employed as software developers.
19	201MC2L01	Professional Communications skills Lab		✓		Students are able to demonstrate technical skills to express fluently in both written as well as oral form of language which is very much essential for the career growth
20	201MC2T02	Constitution of India		✓		This subject helps the student to demonstrate their technical skills for constitution making and its importance for building a democratic India, to make them understand the executive, legislative and judiciary system.

III SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
21	191BS3T11	Integral transforms and applications of Partial Differential Equations		✓		Students are able to demonstrate problem solving skills by modeling physical phenomenon using partial differential equations and by learning Fourier Transforms and Laplace Transforms and their applications
22	191ES3T10	Internet of things (IOT)	✓			Students will be able to acquire technical skills to develop real time IOT devices which can be used in the field of medicine, agriculture, Vigilance, safety and security services which enable them to be employed as IOT developer.
23	191HS3T02	Managerial economics and Financial analysis			✓	Students are able to apply the knowledge of economic and financial management enabling them to become an entrepreneur in any domain of their choice.
24	191CE3T01	Strength of materials –I	✓			Students are able to acquire skills related to resistance to mechanical forces and enabling them to be employed for constructional activities.
25	191CE3T02	Fluid mechanics	✓			Students are able to acquire skills related to mechanics of fluids (liquids, gases, and plasmas) and the forces on them in pipe design calculations enabling them to be employed in constructional industry.
26	191CE3T03	Surveying			✓	Students are able to demonstrate competency in the domain of measuring distances and calculate areas enabling them to become a surveyor.
27	191CE3L01	Surveying lab		✓		Students are able to demonstrate technical skill of characterizing electronic devices, modeling and analysis helps in training the students to face real time measurements and calculations as surveyors
28	191CE3T04	Computer aided civil engineering drawing	✓			Students are able to acquire skills related to visualizing the different parts of a building using building by-laws and enabling them to be employed as planners. Skill Development - Students are able to demonstrate technical skills of characterizing buildings and develops creative thinking for future endeavours in constructional industry
29	191CE3L02	Strength of materials lab		✓		Students are able to demonstrate technical skills related to resistance of materials to mechanical forces and apply them in constructional industry
30	191MC3A03	Employability Skills – I	✓			This subject helps the students to acquire skills to be placed in a company as it will impart employability skills in students, which will enable the students to feel comfortable to face several competitive examinations with confidence and competence.

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
31	191BS4T16	Numerical methods & Statistical Techniques (CE, ME, Ag. E)		✓		Students are able to demonstrate problem solving skills by learning numerical methods for solving equations, differential equations, integrals , probability distributions, sampling theory and test of hypothesis.
32	191HS4T03	Management science			✓	Students are able to demonstrate competency in the domain of business management enabling them to become an entrepreneur.
33	191CE4T05	Structural analysis	✓			Students are able to acquire skills related to various aspects of framed structures which can be applied in any real time projects.
34	191CE4T06	Construction materials and concrete technology	✓			Students are able to acquire cognitive skills related to properties of concrete, design and test the concrete useful in constructional activities enabling them to be employed in constructional sector.
35	191CE4T07	Strength of materials – II	✓			Students are able to acquire skills related to quantitative description of the motion and deformation of solid materials enabling them to be employed for constructional sector.
36	191CE4T08	Hydraulics and hydraulic machinery	✓			Students are able to acquire skills related to dam construction, mainly for maximum efficiency of resources available in the surroundings of the establishment enabling them to be employed for designing of dams and related structures.
37	191CE4L03	Fluid mechanics & hydraulic Machinery lab		✓		Students are able to demonstrate technical skills in working with turbines, pumps and understand flow behaviour at various sections of harnessing energy from alternate energy sources.
38	191CE4L04	Construction materials and concrete technology lab		✓		Students are able to demonstrate technical skill of various construction materials and testing of concrete.
39	191MC4A05	Employability Skills – II				
40	191MC4A06	Biology for Engineers				

V SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
41	171HS5T05	Management Science			✓	Students are able to demonstrate competency in the domain of business management enabling them to become an entrepreneur.
42	171CE5T10	Design and Drawing of Reinforced Concrete Structures	✓			Students are able to acquire skills related to designing of structural elements like beams, columns, slabs and foundations enabling them to be employed as designers and planners
43	171CE5T11	Transportation Engineering	✓			Students are able to acquire skills related to various aspects of geometric properties of road and apply the concept in design of railway and study of airport characteristics enabling them to be employed in constructional industry
44	171CE5T12	Structural Analysis - II	✓			Students are able to acquire skills related to analysis of framed structures using advanced methodologies enabling them to be employed in developing structural related softwares used in constructional industry.
45	171CE5T13	Water Resource Engineering - I	✓			Students are able to acquire skills related to characteristics of flood analysis based on hydrograph which help in predicting precipitation and deciding level of rainfall received in an area enabling them to be employed in drought management department of government
46	171CE5E01	(PE I) Construction Technology and Management	✓			Students are able to acquire skills related to various management principles involved in constructions and the machinery used in the field of constructional activities enabling them to be employed as designers in development of various machinery
47	171CE5E02	Urban Hydrology	✓			Students are able to acquire skills related to concepts of drainage principles of surface runoff and its importance in conservation of water in the society enabling them to be employed as civil engineers
48	171CE5E03	Traffic Engineering	✓			Students are able to acquire skills related to traffic behaviour by using traffic flow parameters enabling them to be employed by Road & Building industry
49	171HS5T06	Employability Skills - III	✓			This subject helps the students to acquire skills to be placed in a company as it will impart employability skills in students, which will enable the students to feel comfortable to face several competitive examinations with confidence and competence.
50	171CE5L04	Engineering Geology Lab		✓		Students are able to demonstrate technical skill of geological knowledge in selection of suitable sites for construction and gather raw material like rocks and sand used as materials in buildings enabling them to be employed in constructional

						industry
51	171CE5L05	Transportation Engineering Lab		✓		Students are able to demonstrate technical skill of testing of materials and traffic data collection applied in real time situation of RandB industry
52	171CE5S01	MOOCs – I		✓		Students are able to demonstrate technical skill of various online courses available adding to their curricular courses
53	171CE5P03	Surveying Camp		✓		Students are able to demonstrate Problem solving skills to the case studies they undertake as mini projects involving various surveying techniques

VI SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
54	171CE6T14	Design and Drawing of Steel Structures	✓			Students are able to acquire skills related to properties of steel structures and designing of connections between the structural members at industrial, offshore, high rise building enabling them to be employed for designing of building units.
55	171CE6T15	Geotechnical Engineering - I	✓			Students are able to acquire skills related to various properties of soil deciding the strength required in substructure design of a building/construction enabling them to be employed in construction industry.
56	171CE6T16	Water Resource Engineering - II	✓			Students are able to acquire skills related to various aspects of irrigation structures and their design in agricultural activities enabling them to be employed in the concerned industry.
57	171CE6T17	Prestressed Concrete	✓			Students are able to acquire skills related to bridge desining and metro constructions enabling them to be employed in constructional industry
58	171CE6E04	PE II Ground Water Development	✓			Students are able to acquire skills related to various aspects of application of knowledge in study of subsurface formations to identify aquifers and various artificial recharge methods in conservation of water in the society enabling them to be employed as engineers in various sectors of society.
59	171CE6E05	Pavement Analysis and Design	✓			Students are able to acquire skills related to various aspects of designing of flexible and rigid pavements enabling them to be employed in RandB industry
60	171CE6E06	Repair and Rehabilitation of Structures	✓			Students are able to acquire skills related to various aspects of studying detroitaton of concrete structures and rehabilitation of these using advanced technologies, like preservation of monuments and other detroitied structures enabling them to be employed in civil industry
61	171CE6E07	PE III Ground Improvement Techniques	✓			Students are able to acquire skills related to roadway design enabling them to be employed in R and B industry
62	171CE6E08	Finite Element Methods		✓		Students are able to acquire problem solving skills related to structural related problems and developing software programs and enabling them to be employed in various software related constructional industries
63	171CE6E09	Earthquake Resistant Design	✓			Students are able to acquire skills related to design, evaluate the performance and properties of structural members when subjected to seismic loads and designing earthquake resistant structures enabling them to be employed as structural engineers
64	171HS6T07	Employability Skills - IV	✓			This subject helps the students to acquire skills to be placed in a company as it will

						impart employability skills in students, which will enable the students to feel comfortable to face several competitive examinations with confidence and competence.
65	171CE6L06	Geotechnical Engineering Lab		✓		Students are able to demonstrate technical skill of characterizing soil tests on various types of soil to decide suitability of soil for construction activities as a civil engineer
66	171CE6L07	Irrigation Design and Drawing		✓		Students are able to demonstrate technical skill of characterizing various types of irrigation structures and their design use ful in the agricultural industry
67	171CE6S02	MOOCs - II		✓		Students are able to demonstrate technical skill of various online courses available adding to their curricular courses

VII SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
68	171CE7T18	Geotechnical Engineering - II				Students are able to acquire skills related to slopes and finding out the earth pressures using various methodologies applied in foundation design of a building enabling them to be employed for constructional sector.
69	171CE7T19	Environmental Engineering				Students are able to acquire skills related to design and evaluate the water supply system and treatment of wastewater generated in the society and its management enabling them to be employed for designing deals with as civil engineers
70	171CE7T20	Remote Sensing and GIS Applications				Students are able to acquire skills related to classification and map making for various spatial references like, ground water, forestry, transportation in the real world enabling them to be employed in various industries
71	171CE7T21	Estimation, Specifications and Contracts				Students are able to acquire skills related to estimating material and cost of it for various constructional activities enabling them to be employed in constructional industry.
72	171CE7E10	PE IV Advanced Structural Engineering				
73	171CE7E11	Watershed Management				Students are able to acquire skills related to the effective usage of water and land resources for sustainable future in the society enabling them to be employed as civil engineers
74	171CE7E12	Design of Tall Buildings				Students are able to acquire skills related to design, evaluate and construct apartments/high rise buildings enabling them to be employed in constructional industry
75	171CE7E13	PE V Bridge Engineering				Students are able to acquire skills related to design, evaluate and study the force applied by the flow of water and relating it to design of dynamics/cyclic loads in various types of bridges enabling them to be employed in constructional industry
76	171CE7E14	Environmental Impact Assessment and Management				Students are able to acquire skills related to assessment of the impact of any developmental activity in any sector of the environment and mitigation of negative impacts in the environment enabling them to be employed in as environmental managers/engineers
77	171CE7E15	Water Resources Systems Planning				Students are able to acquire skills related to planning of various water sources and their conservational principles in the society enabling them to be employed in civil industry
78	171CE7L08	Environmental Engineering Lab				Students are able to demonstrate technical skill of characterizing water samples with respect to physical and chemical examination required for drinking water supply and constructional activities and waste water for treatment and disposal in municipal sector of the society
79	171CE7L09	GIS And Computer Aided Design (CAD) Lab				Students are able to demonstrate technical skill of experimenting various remote sensing softwares like Arc GIS, ERDAS etc. used in image analysis and map making at various land scapes in constructional industry


80	171CE7P01	Industry Oriented (Internship) Minor Project				Students will be able to demonstrate problem identification, analysis, design solutions or applications in electronics and communication domain through the acquired technical, cognitive, communication and creative skills to address societal needs.
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VIII SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
81	171CE8E16	PE VI Urban Transportation Planning Engineering				
82	171CE8E17	Soil Dynamics and Foundations				Students are able to acquire skills related to behavior of a soil subjected to dynamic (actions having high acceleration) loading and impact on the foundations enabling them to be employed in constructional industry
83	171CE8E18	Solid And Hazardous Waste Management				Students are able to acquire skills related to various aspects of managing the municipal solid waste generated and its importance in sustainable development of the society in various industries and municipalities enabling them to be employed as sanitary engineers/managers/inspectors
84	171CE8E19	Air Pollution and Control				Students are able to acquire skills related to various aspects of air pollution concepts and their control and their application in the society enabling them to be employed as environmental engineers
85	171CE8O01	OE Electronic Instrumentation				
86	171CE8O02	Database Management Systems				Students are able to acquire skills related to sql commands, constraints, views, pl/sql programming enabling them to be employed for backend developer
87	171CE8O03	Alternative Energy Sources				Students are able to acquire skills related to various types of pivotal role in the development of a sustainable energy supply enabling the students to get employed in renewable energy generation sector.
88	171CE8O04	Waste Water Management				Students are able to demonstrate technical skill of characterizing various waste water treatment technologies.
89	171CE8O05	Fundamentals of Liquefied Natural Gas				
90	171CE8O06	Green Fuel Technologies				Students are able to acquire skills related to different energy resources enabling them to be employed for energy sector.
91	171CE8O07	Green Engineering Systems				Students are able to demonstrate problem solving skills in analyzing the significance of alternative sources of energy, green energy systems.
92	171CE8P02	Major Project				students will be able to demonstrate problem identification, analysis, design solutions or applications in Civil Engineering domain through the acquired technical, cognitive, communication and creative skills to address societal needs.
TOTAL		92	44	31	6	



Program Coordinator



Head of the Department
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