

PROGRAM STRUCTURE

I SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	191HS1T01	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	191BS1T01	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	191BS1T02	Engineering Physics				
4	191ES1T01	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.
5	191HS1L01	Communicative English Lab-I		✓		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
6	191BS1L01	Engineering Physics Lab				
7	191ES1L01	Programming for Problem Solving Using C Lab	✓			Students are able to demonstrate technical skills related to control structures, arrays, string formulas enabling them to be employed in software industry.
8	191ES1L02	Basic Engineering Workshop		✓		Engineering Workshop helps the students by improving their skills by knowing the construction of various wooden joints and various fitting joints, by understanding different black smithy work and preparing various sheet metal models.
9	191MC1A01	Environmental Science				
10	191MC1A02	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.

II SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
11	191BS2T05	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	191BS2T06	Chemistry of Materials				
13	191ES2T02	Engineering Graphics and Design		✓		Students are able to demonstrate problem solving skills by modeling physical phenomenon using partial differential equations and their applications in various engineering disciplines.
14	191ES2T03	Essential Electrical and Electronics Engineering	✓			Students are able to acquire technical skill of characterizing electronic devices, modeling and analysis of electronic circuits in logging industry.
15	191ES2T04	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.
16	191HS2L02	Communicative English Lab- II		✓		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
17	191BS2L04	Engineering Chemistry Lab				
18	191ES2L03	Essential Electrical and Electronics Engineering Lab		✓		Students are able to demonstrate technical skill of characterizing electronic devices, modeling and analysis of electronic circuits in logging industry.
19	191ES2L04	Civil Engineering Workshop		✓		Students are able to acquire technical skills related to use the various basic principles of creativity in constructional field.
20	191PR2P01	Engineering Exploration 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.

III SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
21	171BS3T10	Probability and Statistics		✓		Students are able to demonstrate problem solving skills by learning about random variables , probability distributions, sampling theory , test of hypothesis , correlation and regression.
22	171ES3T05	Basic Electrical and Electronics Engineering	✓			Students are able to acquire skills related to basic electrical and electronic principles enabling them to be employed for designing civil engineering constructional elements.
23	171ES3T09	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.
24	171CE3T01	Building Materials and Construction	✓			Students are able to acquire skills related to various aspects of construction materials enabling them to be employed in constructional sector.
25	171CE3T02	Surveying			✓	Students are able to demonstrate competency in the domain of measuring distances and calculate areas enabling them to become a surveyor.
26	171CE3T03	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.
27	171CE3L01	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	171ES3L03	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
29	171HS3A09	Professional Ethics and Human Values				
30	171HS3A10	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	171CE4T04	Building Planning and Computer Aided 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. Students are able to demonstrate technical skills of characterizing buildings and develops creative thinking for future endeavours in constructional industry
32	171CE4T05	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.
33	171CE4T06	Engineering Geology	✓			Students are able to acquire skills related to various aspects of soil strata and subsurface formation in foundation and subsurface structures in civil constructions enabling them to be employed in constructional sector.
34	171CE4T07	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.
35	171CE4T08	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	171CE4T09	Structural Analysis - I	✓			Students are able to acquire skills related to various aspects of framed structures which can be applied in any real time projects.
37	171CE4L02	Fluid Mechanics and 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	171CE4L03	Concrete Technology Lab		✓		Students are able to acquire technical skills related to properties of concrete, design and test the concrete useful in constructional activities
39	171HS4A08	Intellectual property rights and patents			✓	It helps the graduates safe guard the IP and innovations at their place of work.
40	171HS4A11	Employability Skills - II	✓			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.
41	171HS4A04	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.

V SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
42	171HS5T05	Management Science			✓	Students are able to demonstrate competency in the domain of business management enabling them to become an entrepreneur.
43	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
44	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 charactersites enabling them to be employed in constructional industry
45	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 software used in constructional industry.
46	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
47	171CE5E01	(PE I)Construction Technology and Management				
48	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
49	171CE5E03	Traffic Engineering	✓			Students are able to acquire skills related to traffic behaviour by using traffic flow parameters enabling them to be employed by RandB industry
50	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.
51	171CE5L04	Engineering Geology Lab	✓			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
52	171CE5L05	Transportation Engineering Lab	✓			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 charactersites enabling them to be employed in constructional industry
53	171CE5S01	MOOCs – I	✓			
54	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
55	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.
56	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.
57	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.
58	171CE6T17	Prestressed Concrete	✓			Students are able to acquire skills related to bridge desining and metro constructions enabling them to be employed in constructional industry
59	171CE6E04	PE II Ground Water Development	✓			
60	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 Rand B industry
61	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
62	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
63	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
64	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
65	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.
66	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 acitivities as a civil engineer
67	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
68	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
69	R1641011	Environmental Engineering - II	✓			Students are able to acquire skills related to design and evaluate the treatment of wastewater generated in the society and its management enabling them to be employed for designing deals with as civil engineers
70	R1641012	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.
71	R1641013	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.
72	R1641014	Remote Sensing & 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
73	R164101A	Finite Element Methods(Elective I)		✓		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
74	R164101B	Ground Improvement Techniques	✓			Students are able to acquire skills related to roadway design enabling them to be employed in R and B industry
75	R164101C	Air Pollution & 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
76	R164101D	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
77	R164101E	Traffic Engineering	✓			Students are able to acquire skills related to traffic behaviour by using traffic flow parameters enabling them to be employed by RandB industry
78	R164101F	Advanced Structural Engineering(Elective II)				
79	R164101G	Advanced Foundation Engineering	✓			Students are able to acquire skills related to concepts, advanced principles and application of foundation analysis and design to the undergraduate students of civil engineering industry enabling them to be employed as Structural engineers
80	R164101H	Environmental Impact Assessment & 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
81	R164101I	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.
82	R164101J	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
83	R1641019	IPR & Patents	✓			It helps the graduates safe guard the IP and innovations at their place of work.
84	R1641017	GIS & 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 constructonal industry
85	R1641018	Irrigation Design & Drawing		✓		Students are able to demonstrate technical skill of characterizing various types of irrigation structures and their design use ful in the agricultural industry

VIII SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
86	R1642011	Estimation Specification & 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. Skill development - Students are able to demonstrate problem solving skills to help in handling and managing contracts for their future endeavours as managers
87	R1642012	Construction Technology & 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
88	R1642013	Prestressed Concrete	✓			Students are able to acquire skills related to bridge desining and metro constructions enabling them to be employed in constructional industry
89	R164201A	Bridge Engineering (Elective III)	✓			Students are able to acquire skills related to design, evaluate and study the force applied by a 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
90	R164201B	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
91	R164201C	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
92	R164201D	Water Resources Systems Planning				
93	R164201E	Urban Transportation Planning Engineering		✓		Students are able to demonstrate technical skill of generation of trips and trip modeling in R and B industry
94	R1642015	Seminar on Internship 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.
95	R1642016	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		95	55	25	4	



Program Coordinator



Head of the Department
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