

II SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
10	201BS2T05	Partial Differential Equations and Vector Calculus		✓		Students are able to demonstrate problem solving skills by modeling physical phenomenon using partial differential equations and their applications in various engineering disciplines.
11	201BS2T06	Chemistry of Materials				
12	201ES2T07	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.
13	201ES2T09	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.
14	201ES2T13	Surveying			✓	Students are able to demonstrate competency in the domain of measuring distances and calculate areas enabling them to become a surveyor.
15	201ES2L06	Surveying field Work		✓		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
16	201ES2L09	Engineering Chemistry Lab				
17	201ES2L11	Programming for Problem Solving Using C Lab	✓			Students are able to acquire skills related to basic programming using C, enabling them to be employed as software developers.

18	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
19	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
20	201BS3T12	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
21	201CE3T01	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.
22	201CE3T02	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.
23	201CE3T03	Structural Analysis	✓			Students are able to acquire skills related to various aspects of framed structures which can be applied in any real time projects.
24	201CE3T04	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.
25	201CE3L01	Building Planning & Drawing Lab		✓		Students are able to demonstrate technical skills related to planning and construction of buildings
26	201CE3L02	Concrete Technology Lab		✓		Students are able to acquire technical skills related to properties of concrete, design and test the concrete useful in constructional activities
27	201CE3L03	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

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28	201SC3L01	CAD Lab		✓		Students are able to demonstrate technical skill of various construction elements using AutoCAD
29	201MC3T03	Biology for Engineers				

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
30	201BS4T15	Numerical Methods and Statistical Techniques		✓		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.
31	201CE4T05	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.
32	201CE4T06	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.
33	201CE4T07	Hydraulics & 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.
34	201HS4T02	Management Science			✓	Students are able to demonstrate competency in the domain of business management enabling them to become an entrepreneur.
35	201CE4T08	Soil Mechanics	✓			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.
36	201CE4L04	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
37	201CE4L05	FM & HM 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.

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38	201SC4L13	3D Modeling using Revit		✓		Students are able to demonstrate technical skill of revit software enabling them to be employed in constructional industry
39	201MC4T04	Essence of Indian Traditional Knowledge		✓		This subject demonstrate technical skills as they were able to understand concept of Traditional knowledge and its importance, enactments related to the protection of traditional knowledge and traditional knowledge in Agriculture and Medicine.

V SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
40	191CE5T09	Irrigation & water resource Engineering	✓			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
41	191CE5T10	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.
42	191CE5T11	Design & 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	191CE5T12	Geotechnical engineering	✓			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.
44	191CE5E02	PE I 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
45	191CE5E04	Subsurface Investigation and Instrumentation	✓			Students are able to acquire skills related to various aspects of subsurface investigation and various instruments used in it enabling them to be employed in Constructional industry
46	191CE5E01	Airport Planning and Design	✓			Students are able to acquire skills related to various aspects of study of airport charactersites enabling them to be employed in consttuctional industry
47	191CE5E05	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	191CE5E03	Environmental Pollution and Control	✓			Students are able to acquire skills related to concepts of pollution of various sectors of environment and apply them in sustainable development of the society enabling them to be employed as environmental managers
49	191EE5O01	OE I Electrical Safety		✓		Students are able to demonstrate safety skills by providing knowledge on hazards with growing penetration of electricla devices in strategic areas including Space, mining and Nuclear energy.

50	191EE5002	Electrical Materials		✓		Students are able to demonstrate technical skills in manufacturing of the electrical components depending on the application.
51	191EE5003	Basic Electrical Measurements	✓			Students are able to acquire skills related to various types of electrical parameters that enable them to get employed in core (electrical) industry/company related to measurements of electrical parameters.
52	191ME5002	Fundamentals of Mechanical Engineering		✓		Students are able to acquire skills related to concepts of fundamentals of thermal, manufacturing and design fields in mechanical engineering.
53	191ME5003	Supply Chain Management	✓			The students are able to acquire skills related to cost benefit analysis of different supply chains, designs which enable them to be employed in Marketing department of manufacturing and service based companies
54	191ME5004	3D Printing	✓			Students are able to acquire skills on basic knowledge of various additive manufacturing processes and enabling them to be employed in manufacturing companies.
55	191ME5005	Entrepreneurship Development and Incubation	✓			Students are able to acquire skills to understand and apply the business plan for preparation and evaluation of project and enabling them to be employed as a project engineer in various organizations.
56	191EC5001	Signals & Systems	✓			Students are able to acquire skills related to analysis of signals enabling them to be employed for designing and manufacturing of electronic/ communication equipment.
57	191EC5002	Digital Electronics and Logic Design	✓			Students are able to acquire knowledge related to characteristics of digital electronic devices and skills related to basic ckt. design enabling them to be employed for designing and manufacturing of digital electronic equipment.
58	191EC5003	Semi conductor devices	✓			Students are able to acquire skills related to the various power electronic drives which enables them to get employed in semiconductor based industries such as in communications, computing, health care, military systems, transportation, clean energy, etc.
59	191CS5001	Data Structures	✓			Students are able to acquire technical skills related to demonstrate fundamental algorithmic problems that enable them to be employed as software developers
60	191CS5002	Object Oriented Programming through C++	✓			Students are able to acquire skills related to concepts of object-oriented programming and process of data file manipulations using C++, enabling them to be employed as software developers.
61	191CS5003	Java Programming	✓			Students are able to acquire skills related to java programming enabling them to be employed as software developers.
62	191CS5004	R Programming	✓			Students are able to acquire skills related to R commands, Graphical representation of data sets, and visualization Techniques and also enabling them to be employed for Data analyst

63	191IT5O01	Data Base Management Systems	✓			Students are able to acquire skills related to sql commands, constraints, views, models, transactions, storage and indexing enabling them to be employed for backend developer
64	191IT5O02	Computer Graphics	✓			Students are able to aquire related 2D,3D graphical representations and basic graphic programming using openGL enabling them to employed as graphic designer.
65	191MI5O01	Overview of Mining				
66	191PT5O01	Process Intensification in Petroleum Industry		✓		Students are able to demonstrate technical skill of characterizing different intensifications ,modeling and analysis of process in Petroleum Industry.
67	191PT5O02	Fundamentals of Petroleum Industry				
68	191AG5O01	Basic Crop Production Practices	✓			Students are able to acquire skills related to production practices and management techniques of agricultural and horticultural crops enabling them to be employed as agricultural field manager
69	191CE5L05	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
70	191CE5L06	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 acitvities as a civil engineer
71	191HS5T06	Employability Skills - III	✓			This subject helps the students to accquire 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.
72	191PR5P02	Socially Relevant Project	✓			Students will be able to demonstrate problem identification, analysis, design solutions or applications in eletronics and communication domain through the aquired technical, cognitive,communication and creative skills to address societal needs.
73	191MC5A07	Survey 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
74	191CE6T13	Design & 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.
75	191CE6T14	Highway engineering	✓			Students are able to acquire skills related to geometric properties of road enabling them to be employed for R and B department.
76	191CE6T15	Foundation engineering	✓			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.
77	191CE6E10	PE-II Repair and Rehabilitation of Structures	✓			Students are able to acquire skills related to various aspects of studying deterioration of concrete structures and rehabilitation of these using advanced technologies, like preservation of monuments and other deteriorated structures enabling them to be employed in civil industry
78	191CE6E07	Ground Improvement Techniques	✓			Students are able to acquire skills related to roadway design enabling them to be employed in R and B industry
79	191CE6E09	Railway Engineering	✓			Students are able to acquire skills related to various aspects of geometric properties of road and apply the concept in design of railway enabling them to be employed in constructional industry
80	191CE6E08	Hydropower Development	✓			Students are able to demonstrate technical skill of harnessing hydropower enabling them to be employed in various projects.
81	191CE6E06	Air Pollution Engineering	✓			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
82	191CE6E13	PE -III 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
83	191CE6E12	Expansive Soils		✓		Students are able to demonstrate technical skill of characterizing the nature of soils with respect to their expansive nature
84	191CE6E11	Docks and Harbour Engineering	✓			Students are able to acquire skills related to various aspects of harbour

						construction along the shore enabling them to be employed in constructional industry
85	191CE6E15	Water Resources System Analysis	✓			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
86	191CE6E14	Industrial Waste & Waste-Water Engineering	✓			Students are able to acquire skills related to the industrial requirement and treatment of the waste water from various industries enabling them to be employed as environmental engineers
87	191EE6O04	OE II Energy Audit and Conservation Management			✓	The course focuses on the loss and profit studies and other company maintenance activities, creates the interest among the students to have own company.
88	191EE6O05	Non Conventional Energy resources	✓			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.
89	191EE6O06	Instrumentation	✓			Students are able to acquire skills related to various types of electrical instruments that enable them to get employed in core (electrical) industry/company related to instrumentation of electrical parameters.
90	191ME6O06	Solar Energy Utilisation		✓		Students are able to demonstrate problem solving skills in analyzing the basic thermodynamics and basic heat transfer mechanisms.
91	191ME6O07	Basic Thermodynamics and Heat Transfer	✓			Students are able to acquire skills related to various thermodynamic systems and power cycles and enabling them to be employed as Thermodynamic engineer.
92	191ME6O09	3D Printing	✓			Students are able to acquire skills on basic knowledge of various additive manufacturing processes and enabling them to be employed in manufacturing companies.
93	191ME6O06	Robotics	✓			Students are able to acquire skills to understand the concepts of robot kinematics, Dynamics and trajectory planning enabling them to be employed in robot manufacturing industries
94	191ME6O12	Entrepreneurship Development and Incubation	✓			Students are able to acquire skills to understand and apply the business plan for preparation and evaluation of project and enabling them to be employed as a project engineer in various organizations.
95	191ME6O07	Biomedical Instrumentation	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of biomedical instrumentation circuits enabling them to be employed for designing and manufacturing of electronic equipment like ECG, EMC etc.
96	191ME6O08	ECAD Tools	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.

97	191CS6O05	Python Programming	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
98	191CS6O06	Operating Systems	✓			Students are able to understand and acquire skills related to features and functionalities of operating System and understand the utilization of Input & output and memory operations which enables them to be employed for Hardware core side job opportunities
99	191CS6O07	Web Technologies	✓			Students are able to acquire skills related to developing web pages, enabling them to be employed as front end developers.
100	191CS6O08	Cyber Security	✓			Students are able to acquire skills related to design, develop and evaluate the performance of secure systems enabling them to be employed for designing and manufacturing of secure communication equipment.
101	191CS6O09	AR / VR				
102	191IT6O03	Computer Organization	✓			Students are nurtured with the internal organization and functioning of Computer System and enabling them to get employed in the hardware sectors of computers.
103	191IT6O04	AI Tools & Techniques		✓		Students are able to demonstrate technical skill of searching techniques used in AI, Expert systems, Knowledge representation and fuzzy logic.
104	191AG6O03	Bio-energy systems design and applications	✓			Students are able to acquire skills related to biomass and agrochemical conversion techniques, biomass production and bio-diesel production enabling them to be employed in any bio mass energy sector.
105	191IT6O05	Robotic Process Automation		✓		Students are able to demonstrate technical skill to develop applications using UIPath Programming and extraction techniques to deploy robot configurations
106	191MI6O02	Industrial Safety Practices		✓		Students are able to demonstrate technical skill related to various safety practices to be followed in different industrial environments.
107	191MI6O03	Electrical Equipment's in Mines		✓		Students are able to acquire knowledge about various electrical equipment used in mines which useful in mining activity.
108	191PT6O03	Unconventional Hydrocarbon Resources		✓		Students are able to demonstrate technical skill of characterizing different unconventional resources, modeling and analysis of reserves .
109	191PT6O04	Asset Management			✓	Students are able to demonstrate Competency in the domain of Integrated asset management enabling them to become an entrepreneur.
110	191AG6O02	Weather forecast in Agriculture				
111	191CE6L07	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

112	191CE6L08	Computer aided design lab		✓		Students are able to demonstrate computer based drawing and reducing manual drawing in constructional activities
113	191CE6L09	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
114	191HS6T07	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.

VII SEMESTER

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115	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.
116	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
117	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
118	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.
119	171CE7E10	PE IV Advanced Structural Engineering	✓			Students are able to acquire skills related to application of recent trends in analysis of dynamic behaviour of a structure, which can further be applied in developing Earth quake resistant buildings enabling them to be employed as designers of buildings
120	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
121	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
122	171CE7E13	PE V Bridge Engineering	✓			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
123	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 inas environmental managers/engineers
124	171CE7E15	Water Resources Systems	✓			Students are able to acquire skills related to planning of various water sources and

		Planning				their conservational principles in the society enabling them to be employed in civil industry
125	17ICE7L08	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
126	17ICE7L09	GIS And Computer Aided Design (CAD) Lab		✓		Students are able to demonstrate technical skill of experimenting various remote sensing software like Arc GIS, ERDAS etc. used in image analysis and map making at various land scape in constructional industry
127	17ICE7P01	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.

VIII SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
128	171CE8E16	PE VI Urban Transportation Planning Engineering				Students are able to demonstrate technical skill of generation of trips and trip modeling in R and B industry
129	171CE8E17	Soil Dynamics and Foundations				
130	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
131	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
132	171CE8O01	OE Electronic Instrumentation				
133	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
134	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.
135	171CE8O04	Waste Water Management				Students are able to demonstrate technical skill of characterizing various waste water treatment technologies.
136	171CE8O05	Fundamentals of Liquefied Natural Gas				Students are able to demonstrate technical skill of characterizing different gas components, modeling and analysis of liquefactions.
137	171CE8O06	Green Fuel Technologies				Students are able to demonstrate technical skill of characterizing different energy resources, modeling and analysis of energy sector..
138	171CE8O07	Green Engineering Systems				Students are able to demonstrate problem solving skills in analyzing the significance of alternative sources of energy, green energy systems.
139	171CE8P02	Major 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.
TOTAL		139	76	48	4	



Program Coordinator



Head of the Department
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