

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 modelling physical phenomenon using partial differential equations, vector differentiation, vector integration and their applications in various engineering disciplines.
3	201BS1T02	Engineering Physics				
4	201ES1T03	Essential Electrical and Electronics Engineering		✓		This subject helps the student to demonstrate their technical skills by analyzing various electrical networks, knowing the operation of Dc generators, analyzing the performance of single phase transformers and 3-phase induction motors. This will create skills among student so that wherever they will find these types of machine their deal with their complexities.
5	201ES1T05	Engineering Graphics		✓		This subject helps the student to demonstrate technical skills as they have knowledge about engineering drawing and AutoCAD software for orthographic projections and isometric projection.
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	201ES1L03	Essential Electrical and Electronics Engineering Lab		✓		This subject helps the student to demonstrate technical skills as they are able to analyze electrical networks using network theorems, performance of AC and DC Machines, diode characteristics and its application and simulation of diode and transistor.
9	201MC1T01	Environmental Science				

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 modelling physical phenomenon using partial differential equations, vector differentiation, vector integration and their applications in various engineering disciplines.
11	201BS2T08	Chemistry of Materials				
12	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.
13	201ES2T08	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.
14	201ES2L07	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.
15	201ES2L12	Computer Aided Drafting Lab		✓		Students are able to acquire skills related to drafting of mechanical components/assemblies through AUTOCAD software enabling them to be employed as a design engineer.
16	201HS2L02	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.
17	201BS2L05	Engineering Chemistry Lab				
18	201ES2L10	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.
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	191PT3T01	Petroleum Exploration		✓		Students are able to demonstrate technical skill of characterizing different exploration methods, modeling and analysis of structures.
21	191PT3T02	Geology and Sedimentology	✓			Students are able to acquire skills related to various aspects of different structures, traps, stratigraphy's enabling them to be employed as petroleum and sedimentary geologists.
22	191PT3T03	Chemical Process Calculations		✓		Students are able to demonstrate Problem solving skills to analyze stylometric relations of chemicals and performance characteristics of it.
23	191PT3T04	Mechanical and Materials Science and Engineering	✓			Students are able to acquire skills related to various aspects of material design enabling them to be employed as material designers
24	191PT3L01	Mechanical and Material Science Lab		✓		Students are able to acquire skills related to various aspects of material design enabling them to be employed as material designers
25	191PT3L02	Geology Lab	✓			Students are able to acquire skills related to various aspects of different geological structures enabling them to be employed as geologists.
26	191BS3T15	Numerical Methods and Integral Transforms		✓		Students are able to demonstrate problem solving skills by learning numerical methods for solving equations, differential equations, integrals, Fourier Transforms and Laplace Transforms and their applications.
27	191MC3A03	Employability Skills – I	✓			Students are able 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
28	191PT4T06	Momentum Transfer		✓		Students are able to demonstrate problem solving skills by modelling physical phenomenon using fluid flow behaviour and designing of fluid flow in various engineering disciplines.
29	191PT4T07	Petroleum Geology	✓			Students are able to acquire skills related to various aspects of various structures , traps, stratigraphy's enabling them to be employed as petroleum geologists.
30	191PT4T05	Process Heat Transfer		✓		Students are able to demonstrate problem solving skills by modelling physical phenomenon using heat flow systems, study of temperature behaviour in various engineering disciplines.
31	191HS3T02	Managerial Economics and Financial Analysis			✓	Students are able to demonstrate Competency in gaining the managerial skill set and enabling them to be an entrepreneur
32	191HS4T03	Management Science			✓	Students are able to demonstrate competency in the domain of business management enabling them to become an entrepreneur.
33	191ES4T15	Internet of Things	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.
34	191MC4A05	Employability Skills – II	✓			Students are able 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.
35	191BS4T19	Complex Variables and Statistical Methods		✓		Students are able to demonstrate problem solving skills by analytical properties of functions of complex variables and their applications and also about random variables, sampling theory, test of hypothesis.
36	191PT4L03	Process Heat Transfer Lab		✓		Students are able to acquire skills related to various aspects of heat flow systems, study of temperature behaviour in petroleum systems enabling them to be employed as production engineers.
37	191PT4L04	Momentum Transfer Lab		✓		Students are able to acquire skills related to various aspects of heat flow systems, study of temperature behaviour in petroleum systems enabling them to be employed as production engineers.

V SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
38	171PT5T06	Process Dynamics and Control		✓		Students are able to demonstrate technical skill of characterizing different controllers, modelling and analysis of control valves.
39	171PT5T07	Petroleum Exploration		✓		Students are able to demonstrate technical skill of characterizing different exploration methods, modeling and analysis of structures.
40	171PT5T08	Process Instrumentation		✓		Students are able to demonstrate technical skill of characterizing different types of instruments, modelling and analysis of instruments.
41	171PT5T09	Well Logging and Formation Evaluation		✓		Students are able to demonstrate technical skill of characterizing different logging tools, modelling and analysis of formations.
42	171PT5T10	Drilling Technology		✓		Students are able to demonstrate technical skill of characterizing different drilling methods, modelling and analysis of well bore.
43	171PT5E01	Well Engineering and Design		✓		Students are able to demonstrate technical skill of characterizing different well designs, modelling and analysis of well bore.
44	171PT5E02	Fundamentals of Liquefied Natural Gas	✓			Students are able to acquire skills related to various aspects of different crude behaviour enabling them to be employed as process and transport engineers.
45	171PT5E03	Pipeline Engineering		✓		Students are able to demonstrate technical skill of characterizing different material behaviours , modelling and analysis of pipeline operations.
46	171PT5L03	Instrumentation, Process Dynamics and Control Lab		✓		Students are able to acquire skills related to various aspects of different controllers behaviour enabling them to be employed as production engineers.
47	171PT5L04	Drilling Fluids Lab		✓		Students are able to acquire skills related to different aspects of various mud behaviour enabling them to be employed as mud engineers.
48	171HS5T06	Employability Skills - III	✓			Students are able 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.
49	171PT5S01	MOOCs – I	✓			Students are able to demonstrate technical skill of various online courses available adding to their curricular courses

VI SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
50	171PT6T11	Well Completions, Testing and Services		✓		Students are able to demonstrate technical skill of characterizing different wells , modelling and analysis of completions.
51	171PT6T12	Petroleum Production Engineering		✓		Students are able to demonstrate technical skill of characterizing different fluid flow properties , modelling and analysis of production.
52	171PT6T13	Petroleum Reservoir Engineering - I		✓		Students are able to demonstrate technical skill of characterizing different rock properties , modelling and analysis of reservoir.
53	171PT6T14	Surface Production Operations		✓		Students are able to demonstrate technical skill of characterizing different separators , modelling and analysis of production.
54	171PT6E04	Petroleum Refining and Petrochemical Engineering		✓		Students are able to demonstrate technical skill of characterizing different heaters, treaters, distillation columns , modelling and analysis of refinery.
55	171PT6E05	Storage and Transportation of Crude Oil and Natural Gas.	✓			Students are able to acquire skills related to various aspects of different crude behaviour enabling them to be employed as process and transport engineers
56	171PT6E06	Reservoir Stimulation		✓		Students are able to acquire skills related to design, synthesize and evaluate the performance of reservoir rocks enabling them to be employed for designing and evaluation of formation for treatment .
57	171PT6E07	Natural Gas Hydrates		✓		Students are able to demonstrate technical skill of characterizing different feeds from well , modelling and analysis of hydrates.
58	171PT6E08	Natural Gas Engineering		✓		Students are able to demonstrate technical skill of characterizing different gas wells , modelling and analysis of fluid behaviours.
59	171PT6E09	Horizontal Well Technology	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of horizontal wells enabling them to be employed for designing and evaluation of well integrity.
60	171PT6L05	Petroleum Analysis Lab	✓			Students are able to acquire skills related to various aspects of different crude behaviour enabling them to be employed as refining engineers.
61	171PT6L06	Petroleum Reservoir Simulation Lab		✓		Students are able to acquire skills related to design, synthesize and evaluate the performance of reservoir rocks enabling them to be employed for designing and evaluation of fluid behaviour in cores.
62	171HS6T07	Employability skills - IV	✓			Students are able 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.

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63	171PT5S02	MOOCs – II		✓		Students are able to demonstrate technical skill of various online courses available adding to their curricular courses
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VII SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
64	171PT7T15	Integrated Asset Management and Petroleum Economics			✓	Students are able to demonstrate Competency in the domain of Integrated asset management enabling them to become an entrepreneur.
65	171PT7T16	Petroleum Reservoir Engineering - II		✓		Students are able to demonstrate technical skill of characterizing different well fluid behaviours , modelling and analysis of reservoir for flow test.
66	171PT7T17	IOR and EOR Techniques		✓		Students are able to demonstrate technical skill of characterizing different crude oils , modelling and analysis of reservoir for recovery.
67	171PT7T18	Oil and Gas Processing Plant Design		✓		Students are able to demonstrate technical skill of characterizing different separators, compressors , pumps , modelling and analysis of production.
68	171PT7E10	Coal Bed Methane	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of CBM wells enabling them to be employed for designing and evaluation well for methane extraction.
69	171PT7E11	Offshore Engineering				
70	171PT7E12	Petroleum Corrosion Technology				
71	171PT7E13	Shale Gas Reservoir Engineering				
72	171PT7E14	Subsea Engineering				
73	171PT7E15	Reservoir Modeling and Simulation	✓			Students are able to demonstrate problem solving skills by modelling physical phenomenon using Practical Reservoir Modelling & Simulation (MATLAB Based) in various engineering disciplines.
74	171PT7L07	Petroleum Equipment Design and Simulation Lab		✓		Students are able to acquire skills related to design, synthesize and evaluate the performance of process equipment's enabling them to be employed for designing and evaluation of fluid behaviour in production.
75	171PT7L08	Petroleum Reservoir Engineering Lab		✓		Students are able to acquire skills related to design, synthesize and evaluate the performance of process equipment's enabling them to be employed for designing and evaluation of fluid behaviour in production.

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76	171HS7A04	Managerial Economics and Financial Analysis			✓	Students are able to demonstrate Competency in gaining the managerial skill set and enabling them to be an entrepreneur
77	171PT7P01	Industry Oriented (Internship) Minor Project	✓			students will be able to demonstrate problem identification, analysis, design solutions or applications in petroleum technology 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
78	171PT8E16	HSE and FE in Petroleum Industry			✓	Students are able to apply the knowledge of safety management enabling them to become an entrepreneur in any domain of their choice.
79	171PT8E17	Reliability and Risk Management in Petroleum Operations			✓	Students are able to demonstrate Competency in the domain of Reliability and Risk Management in Petroleum Operations enabling them to become an entrepreneur.
80	171PT8E18	Deep Sea Production Systems		✓		Students are able to demonstrate technical skill of characterizing different subsea equipment's , modelling and analysis of production.
81	171PT8O01	Green Technologies		✓		Students are able to demonstrate technical skill of characterizing different energy resources , modelling and analysis of energy sector.
82	171PT8O02	Non-Conventional Sources of Energy		✓		Students are able to demonstrate technical skill of characterizing different Non-Conventional Sources , modelling and analysis of energy sector.
83	171PT8O03	Alternative Energy Sources for Automobiles		✓		Students are able to demonstrate technical skill of characterizing different Alternative Energy Sources , modelling and analysis of Automobiles.
84	171PT8O04	Waste Water Treatment		✓		Students are able to demonstrate technical skill of characterizing different waste water materials , modelling and analysis of treatments.
85	171PT8O05	Computational Fluid Dynamics		✓		Students are able to demonstrate technical skill of characterizing different fluid phases , modelling and analysis of fluid dynamics.
86	171PT8O06	Process Intensification in Petroleum Industry		✓		Students are able to demonstrate technical skill of characterizing different intensifications , modelling and analysis of process in Petroleum Industry.
87	171EC8O02	Disaster Management	✓			Students are able to acquire skills related to interpretation of various disasters in the environment and prepares one to prevent, face and combat them enabling them to be employed as managers in various industries
88	171PT8P02	Major Project	✓			Students will be able to demonstrate problem identification, analysis, design solutions or applications petroleum technology domain through the acquired technical, cognitive, communication and creative skills to address societal needs.
	Total		22	50	4	

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