

PROGRAM STRUCTURE
I SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	192TE1T01	Advanced Fluid Mechanics		✓		Students are able to acquire skills in analyzing various fluid flow problems using differential equations of fluid mechanics
2	192TE1T02	Computational Fluid Dynamics	✓			Students are able to demonstrate technical skills related to understand the basics of computational fluid dynamics and enabling them to be employed as Computational fluid dynamics engineer.
3	192TE1E01	Advanced IC Engines, Electric and Hybrid vehicles	✓			Students are able to acquire skills related to the engine performance by using turbo charging and super charging and enabling them to be employed in automotive industries.
4	192TE1E02	Gas Dynamics	✓			Students are able to acquire skills in analyzing the behavior of isentropic flow of ideal gases and enabling them to be employed in thermal power plants.
5	192TE1E03	Cryogenic Engineering	✓			Students are able to acquire skills related to the technical knowledge of cryogenic fluids, purification systems and cryogenic refrigeration systems. Enabling them to be employed in refrigeration industries.
6	192TE1E04	Advanced Thermodynamics	✓			Students are able to acquire skills related to various thermodynamic systems and power cycles and enabling them to be employed as Thermodynamic engineer.

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7	192TE1E05	Gas Turbines		✓		Students are able to acquire skills related to performance characteristics and applications of gas turbines.
8	192TE1E06	Alternative Fuel Technologies				
9	192TE1E07	Energy Conservation and Management	✓			Students are able to acquire skills related to the importance of energy management in the functional area and carrying out budgeting and risk analysis of projects enabling them to be employed in Energy sector.
10	192TE1E08	Theory and Technology of Fuel Cells	✓			Students are able to acquire skills related to the fuel cells and its characteristics, fuel processing and its availability and enabling them to be employed in solar energy-based companies
11	192HS1T01	Research Methodology and IPR		✓		Students can gain knowledge about the methods of study, observation, comparison and experiment along with different types of Intellectual property rights
12	192TE1L01	Computational Fluid Dynamics Lab-I	✓			Students are able to demonstrate technical skills related to understand the basics of computational fluid dynamics and enabling them to be employed as Computational fluid dynamics engineer.
13	19TE1L02	Thermal Engineering Lab -1	✓			Students are able to acquire skills to enhance the knowledge about IC Engines and calculating COP and enabling them to be employed in automotive industries.

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14	192MC1A01/ 192MC2A01	English for research paper writing		✓		Students are able to demonstrate communication writing skills to express fluently in writing form of language which is very much essential for the career growth in research
15	192MC1A02/ 192MC2A02	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
16	192MC1A03/ 192MC2A03	Sanskrit for Technical Knowledge		✓		Students are able to acquire skills related to systematic ways of application of Sanskrit in technology world.
17	192MC1A04/ 192MC2A04	Value Education		✓		Students are able to acquire skills related to various ethics to be incorporated during maintenance of standards in society.
18	192MC1A05/ 192MC2A05	Constitution of India		✓		Students are able to acquire skills related to various acts and regulations related to societal activities in handling real time problems.
19	192MC1A06/ 192MC2A06	Pedagogy studies		✓		Students are able to acquire skills related to teaching styles of concepts in curriculum
20	192MC1A07/ 192MC2A07	Stress management by YOGA		✓		Students are able to acquire skills related to physical&mental disciplines for stress management
21	192MC1A08/ 192MC2A08	Personality development through life enlightenment skills		✓		Students are able to acquire skills related to preparedness to handle situations in day to day life enabling them to help in employment in various sectors

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22	192MC1A09/ 192MC2A09	Soft skills		✓		The students are able to demonstrate Business Communication skills to analyze the mistakes in Body language, formal written communication in the organizations.

II SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
23	192TE2T03	Advanced Heat Transfer	✓			Students are able to acquire skills related to the conduction in steady and unsteady cases and solve 2-D steady and transient heat conduction problems and enabling them to be employed in piping design industries.
24	192TE2T04	Thermal Measurements and Process Controls	✓			Students are able to acquire skills related to the knowledge of various temperature measuring devices and enabling them to be employed in thermal power plants.
25	192TE2E09	Equipment Design for Thermal Systems	✓			Students are able to acquire skills related to the design of heat exchangers, vaporizers, evaporators enabling them to be employed in thermal power plants.
26	192TE2E10	Solar Energy Technologies	✓			Students are able to acquire skills related to the concepts about the types of solar collectors and their measuring principles and impart the knowledge of the various types of thermal energy storage methods and its applications enabling them to be employed in solar based industries.
27	192TE2E11	Advanced Power Plant Engineering	✓			Students are able to acquire skills related to performance, operational characteristics and instrumental techniques used in power plants enabling them to be employed in power plants.
28	192TE2E12	Combustion, Emissions and Environment		✓		Students are able to acquire skills related to principles and thermodynamics of combustion, emissions and pollution control.

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29	192TE2E13	Jet propulsion and Rocket Engineering	✓			Students are able to acquire skills related to the knowledge of the turbojet propulsion system and the principles of jet propulsion, rocketry and nozzle theory enabling them to be employed in defense and aircraft building organizations.
30	192TE2E14	Automotive Engineering	✓			Students are able to acquire skills related to the concepts of fuel and ignition system, lubricating and cooling system, transmission and steering system enabling them to be employed in automotive industries.
31	192TE2E15	Modeling of I.C. Engines	✓			Students are able to acquire skills related to the concepts of modelling and performance of I.C. Engines enabling them to be employed in automotive industries.
32	192TE2E16	Renewable Energy Technologies				
33	192TE2L03	Computational Fluid Dynamics Lab-II	✓			Students are able to demonstrate technical skills related to understand the concepts of advanced computational fluid dynamics and enabling them to be employed as Computational fluid dynamics engineer.
34	192TE2L04	Thermal Engineering Lab -II	✓			Students are able to acquire skills to enhance the knowledge about advanced IC Engines enabling them to be employed in automotive industries.
35	192TE2P01	Mini Project with Seminar	✓			Students will be able to demonstrate problem identification, analysis, design solutions or applications in thermal engineering 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
36	192TE3E17	Optimization Techniques and Applications		✓		Students are able to acquire analytical skills in finding optimal solutions of different models using various decision-making techniques.
37	192TE3E18	Design and Analysis of Experiments		✓		Students are able to acquire analytical skills related to design and analysis of experiments and applying the concepts in various disciplines of engineering
38	192TE3E19	Convective Heat Transfer		✓		Students are able to acquire skills related to the basics of convective heat transfer, free and forced convection in heat transfer.
39	192TE3E20	Waste to Energy		✓		Students are able to acquire skills related to different methods of waste to energy conversion.

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40	192ST3O01	Repair & Rehabilitation of Structures	✓			Students are able to acquire skills related to deterioration of concrete structures and rehabilitation of these using advanced technologies, like preservation of monuments and other deteriorated structures enabling them to be employed as engineers in related field.
41	192ST3O02	Green Building Systems				
42	192ST3O03	Basic 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.
43	192ST3O04	Basic Foundation Engineering		✓		Students are able to acquire skills related to basic concepts of foundations and their importance to various structures/buildings
44	192PD3O01	Renewable Energy Technologies	✓			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.
45	192PD3O02	Hybrid Electric Vehicles	✓			Students are able to acquire skills related to various types hybrid vehicles operations and control enabling the students to get employed in EV sector.

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46	192PD3O03	Energy Audit and conservation Management			✓	This course focuses on the loss and profit studies and other company maintenance activities, creates the interest among the students to have own company.
47	192PD3O04	Neural Networks and Fuzzy Logic	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of ANN enabling them to be employed for designing artificial intelligence systems
48	192PD3O05	Industrial Safety			✓	This course helps to enable the students learn about environmental factors related to human, to enrich the students with anthropometric principles for work space design and to make the students to acquire knowledge on advance effects of air pollution, safety regulations and standards.
49	192PD3O06	Composite Materials		✓		Students are able to acquire skills related to synthesis and characterization of various types of composite materials
50	192ES3O01	Embedded System Design	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of embedded systems enabling them to be employed for designing and manufacturing of electronic systems
51	192ES3O02	Digital System Design	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of digital electronic circuits enabling them to be employed for designing and manufacturing of electronic equipment.

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52	192ES3O03	Programming Languages for Embedded Systems	✓			Students are able to acquire skills related to design, and developed programs with C and C++ enabling them to be employed for designing and manufacturing of Embedded systems.
53	192ES3O04	Sensors & Actuators	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of sensors and actuators enabling them to be employed for designing and manufacturing of electrical/ electronic systems
54	192VD3O01	Physical Design Automation	✓			Students are able to acquire knowledge related to partitioning, placement and routing techniques in a physical design, enabling them to be employed for designing and manufacturing and utilization of ICs.
55	192VD3O02	VLSI Technology	✓			Students are able to acquire knowledge related to fabrication process of VLSI enabling them to be employed for fabrication and testing of ICs
56	192VD3O03	Nano-electronics	✓			Students are able to acquire knowledge related to different nanoelectronics building blocks such as carbon nanotubes, quantum dots, nano wires enabling them to be employed in the field of VLSI

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57	192CS3O01	Python Programming	✓			Students are able to acquire skills related to python programming, enabling them to be employed as software developers.
58	192CS3O02	Principles of 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.
59	192CS3O03	Internet of Things	✓			Students are able to acquire skills related to Internet of Things and enabling them to be employed for IoT sector.
60	192CS3O04	Machine Learning	✓			Students are able to acquire skills related to data science algorithms, enabling them to be employed as data scientists.
61	192CS3O05	Artificial Intelligence	✓			Students are able to acquire skills related to design, synthesize and evaluate the performance of ANN enabling them to be employed for designing artificial intelligence systems
62	192CS3O06	Deep Learning	✓			Students are able to acquire skills related to Deep learning, to analysis of different Deep learning algorithms and solving process in creative way.
63	192PE3O01	Introduction to Petroleum Engineering		✓		Students are able to demonstrate technical skill of characterizing different streams, modelling and analysis of process in Petroleum Industry.

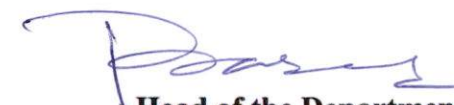
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64	192PE3O02	Process Intensification		✓		Students are able to demonstrate technical skill of characterizing different intensifications, modelling and analysis of process in Petroleum Industry.
65	192PE3O03	Fundamentals of Liquefied Natural Gas	✓			Students are able to acquire skills related to various aspects of different crude behavior enabling them to be employed as process and transport engineers.
66	192PE3O04	Subsea Engineering				
67	192PE3O05	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.
68	192PE3O06	HSE 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.
69	192TE3P02	Dissertation/Industrial 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.

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
70		Dissertation-II	✓			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		70	43	20	3	



Program Coordinator



Head of the Department

Head of the Department
 Department of Mechanical Engineering
 Aditya Engineering College (A)
 SURAMPALEM-533 437