

**PROGRAM STRUCTURE
I SEMESTER**

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
1	172TE1T01	Optimization Techniques & Applications		✓		Students are able to acquire skills in solving single variable and multi - variable nonlinear unconstrained optimization
2	172TE1T02	Advanced Thermodynamics	✓			Students are able to acquire skills related to the estimation of properties of real gases, combustion of gas mixtures and compare vapor and gas power cycles. enabling them to be employed in thermal power plants as a thermodynamics engineer.
3	172TE1T03	Advanced Heat & Mass 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 companies.
4	172TE1T04	Advanced Fluid Mechanics	✓			Students are able to acquire skills related to the potential flow equations to basic flows and enabling them to be employed as a fluid engineer.
5	172TE1E01	Gas Dynamics	✓			Students are able to acquire skills related to the fluid dynamic and thermodynamic aspects of high-speed flows and enabling them to be employed in thermal power plants.

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
6	172TE1E02	Refrigeration & Cryogenics	✓			Students are able to acquire skills related to the effect of various refrigerants on the environment and wide application of cryogenics in science and technology enabling them to be employed in refrigeration industries.
7	172TE1E03	Renewable Energy Technologies				
8	172TE1E04	Theory and Technologies 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
9	172TE1E05	Advanced IC Engines	✓			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.

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10	172TE1E06	Solar Energy Technology	✓			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.
11	172TE1E07	Turbo Machines	✓			Students are able to acquire skills related to the performance analysis of turbo machines and enabling them to be employed in gas power plants
12	172TE1E08	Alternative Fuels Technologies		✓		Students are able to acquire skills in analyzing potential alternative liquid and potential gaseous fuels.
13	172TE1L01	Thermal Engineering Lab	✓			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.

II SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
14	172TE2T05	Fuels, Combustion & Environment	✓			Students are able to acquire skills in analyzing various fuels and the effect of combustion of fuels on environment enabling them to be employed in automotive, aerospace sectors.
15	172TE2T06	Energy 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 Emery sector.
16	172TE2T08	Finite Element Method	✓			Students are able to acquire skills related to analytical skills in solving static and dynamic heat transfer problems enabling them to be employed as a FEA engineer.
17	172TE2T07	Computational Fluid Dynamics	✓			Students are able to acquire skills related to understand the basics of computational fluid dynamics (CFD) and compare finite difference and finite volume methods applied in CFD and enabling them to be employed as Computational fluid dynamics engineer.

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18	172TE2E09	Materials Technology				
19	172TE2E10	Convective Heat Transfer		✓		Students are able to acquire skills related to the basics of convective heat transfer, free and forced convection in heat transfer.
20	172TE2E11	Thermal and Nuclear Power Plants	✓			Students are able to acquire skills related to the principles of combustion and analysis of power cycles and enabling them to be employed in thermal and nuclear power plants.
21	172TE2E12	Advanced Automobile Engineering	✓			Students are able to acquire skills related to the concepts of transmission system, various braking systems and suspension systems enabling them to be employed in automotive sector.
22	172TE2E13	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.
23	172TE2E14	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.

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24	172TE2E15	Jet Propulsion and Rocketry	✓			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.
25	172TE2E16	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	172TE2L02	Thermal Systems Design Lab		✓		Students are able to acquire skills in analyzing the performance of various thermal equipment's.

III SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
27	172TE3C01	Comprehensive Viva-Voce	✓			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.
28	172TE3R01	Seminar – I				
29	---	Project Work Part - I	✓			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.

IV SEMESTER

S. No	Course Code	Name of the Course	Employability	Skill Development	Entrepreneurship	Remarks
30	172TE4C02	Seminar – II				
31	172TE4P01	Project Work Part - II	✓			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.
Total		31	23	4	0	

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Program Coordinator



Head of the Department

Head of the Department
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