

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.Tech. (THERMAL ENGINEERING)
EFFECTIVE FROM ACADEMIC YEAR 2022- 2023 ADMITTED BATCH
R22 COURSE STRUCTURE AND SYLLABUS

I Year I Semester

Course Code	Course Title	L	T	P	Credits
Professional Core - I	Advanced Thermodynamics	3	0	0	3
Professional Core - II	Advanced Fluid Mechanics	3	0	0	3
Professional Elective - I	1. Fuels & Combustion 2. Electric & Hybrid Vehicles 3. Experimental Methods in Thermal Engineering	3	0	0	3
Professional Elective - II	1. Advanced I.C. Engines 2. Gas turbines & Jet Propulsion 3. Nano Fluids	3	0	0	3
Core	Research Methodology & IPR	2	0	0	2
Lab - I	Advanced Thermal Engineering lab	0	0	4	2
Lab - II	Advanced Fluid Mechanics Lab	0	0	4	2
Audit - I	Audit Course - I	2	0	0	0
	Total	16	0	8	18

I Year II Semester

Course Code	Course Title	L	T	P	Credits
Professional Core - III	Advanced Heat and Mass Transfer	3	0	0	3
Professional Core - IV	Computational Fluid Dynamics	3	0	0	3
Professional Elective - III	1. Finite Element Analysis 2. Optimization Techniques & Applications 3. Utilization of Solar energy	3	0	0	3
Professional Elective - IV	1. Cogeneration & Waste Heat Recovery Systems 2. Renewable Energy Sources 3. Energy conservation and Management	3	0	0	3
	Mini Project with Seminar	0	0	4	2
Lab - III	Advanced Heat Transfer Lab	0	0	4	2
Lab - IV	Computational Methods Lab	0	0	4	2
Audit - II	Audit Course - II	2	0	0	0
	Total	14	0	12	18

II Year I Semester

Course Code	Course Title	L	T	P	Credits
Professional Elective - V	1. Refrigeration & HVAC 2. Gas Dynamics 3. Equipment Design for Thermal Systems	3	0	0	3
*Open Elective	Open Elective	3	0	0	3
Dissertation	Dissertation Work Review - II	0	0	12	6
	Total	6	0	12	12

II YEAR II - SEMESTER

Course Code	Course Title	L	T	P	Credits
Dissertation	Dissertation Work Review - III	0	0	12	6
Dissertation	Dissertation Viva-Voce	0	0	28	14
	Total	0	0	40	20

Audit Course I & II:

1. English for Research Paper Writing
2. Disaster Management
3. Sanskrit for Technical Knowledge
4. Value Education
5. Constitution of India
6. Pedagogy Studies
7. Stress Management by yoga
8. Personality Development Through Life Enlightenment Skills