

Maulana Azad National Institute of Technology, Bhopal – 462003
Mechanical Engineering Department

M Tech in Thermal Engineering

SCHEME OF STUDY (wef July 2021)

First Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
MTH 514	Advanced Mathematics	3	-	-	3
TH 511	Advanced Thermodynamics	3	-	-	3
TH 512	Advanced Heat & Mass Transfer	3	-	-	3
TH 513	Fluid Flow & Gas Dynamics	3	-	-	3
HUM 511	Communication Skills	2	-	-	2
	Elective-1 (A)	3	-	-	3
	Elective-2 (B)	3	-	-	3
TH 514	Thermal Engg. Lab-I	-	-	2	1
TH 515	Seminar-I	-	-	2	1
Total Hours: 24 Total Credits: 22		Total Semester Credits			22

Second Semester:

Course No.	Subject	Schemes of studies periods per week			Total Credits
		L	T	P	
TH 521	Power Generation System	3	-	-	3
TH 522	Thermal Environmental Engg.	3	-	-	3
TH 523	Theory and Design of Heat Exchangers	3	-	-	3
	Elective-3 (A)	3	-	-	3
	Elective-4 (A)	3	-	-	3
	Elective-5 (C)	3	-	-	3
ME 524	Research Methodology	1	1	-	2
TH 525	Thermal Engg. Lab-II	-	-	2	1
TH 526	Seminar-II	-	-	2	1
Total Hours: 24 Total Credits: 44		Total Semester Credits			22

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Third Semester:

Course No.	Subject	Schemes of studies periods per week			Total Credits
		L	T	P	
TH 611	Dissertation Phase - I	-	-	32	16
Total Hours: 32 Total Credits: 60		Total Semester Credits			16

Fourth Semester:

Course No.	Subject	Schemes of studies periods per week			Total Credits
		L	T	P	
TH 621	Dissertation Phase - II	-	-	40	20
Total Hours: 40 Total Credits: 80		Total Semester Credits			20

List of Program Electives A		List of Open Electives C	
TH551	Renewable Energy	ARP - 581	Introduction to Urban Planning
TH552	Refrigeration System & Component Design	BSE – 581	Bioprocess Engineering
TH553	Computational Fluid Dynamics	BSE – 582	Biophysics Tools and Techniques
TH554	Theory and Design of Gas Turbines	CHE – 581	Analytical Techniques
TH555	Theory and Design of Turbo machines	CHE – 582	Green Technology & Processes
TH556	Design and Simulation of IC Engines	CE – 581	Solid Waste Management
TH557	Advanced Fluid Mechanics	CE – 582	Basic Concept of GIS
TH558	Micro-Fluidics	CE – 583	Road Safety
TH559	Convective Heat & Mass Transfer	CSE – 581	Machine Learning
TH560	Instrumentation & Control	CSE – 582	Advanced Data Structures and Algorithms
TH561	Entrepreneurship & Skill Development	PHY – 581	Nanotechnology and Nanoscience
TH562	Design of Thermal Systems	EE – 581	Electric Machines & Applications
TH563	Thermal Power Plant Engg.	EE – 582	Control and Instrumentation
		ECE – 581	Introduction to Fuzzy Logic
	List of Departmental Electives B	ECE – 582	Neural Networks and its Applications
SM 513	Finite Element Methods	EC - 581	Energy Resource Technologies
ID 513	Product Planning and Design for Market	HUM – 581	Intellectual Property Rights for Engineers
ID 558	Advanced Operation Research	HUM – 582	Applied Psychology: Human Centered Design and Engineering
ID 561	Additive Manufacturing	MTH – 581	Advanced Operations Research
AM 512	Material Technology	MTH – 582	Computing Technologies
AM 557	Product Design & Material Selection	MME – 581	Advanced Instrumentation Methods for Material Analysis
SV 567	Product Design & Development	MME – 582	Smart Materials and their Application
		MBA-581	Engineering Startup Management