

Maulana Azad National Institute of Technology, Bhopal - 462003
DEPARTMENT OF MECHANICAL ENGINEERING

SCHEME FOR B.TECH (Mechanical Engineering))
(Revised December 2020)

Third Semester:

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
MTH 2301	Mathematics-3	3	1	-	4
HUM 2302	Fundamentals of Entrepreneurship	3	-	-	3
ME 2303	Material Science and Engineering	3	-	-	3
ME 2304	Mechanics of Materials	3	-	-	3
ME 2305	Engineering Thermodynamics	3	-	-	3
ME 2306	Material Characterization Lab.	-	-	2	1
ME 2307	Thermal Engineering Lab.-1	-	-	2	1
ME 2308	Mechanics of Materials Lab.	-	-	2	1
ME 2309	Project based Lab. (Design)	-	2	-	2
ME 2310	Professional Practice-1	-	1	-	1
ME 2304	Minor-1 Mechanics of Materials	3	-	-	3* (Extra)
Total Hours = 25		15	4	6	22
Total Credits (Cumulative)					67

*(Minor-1 Extra for other dept. not for parent)

Fourth Semester:

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
MTH 2401	Mathematics-4	3	1	-	4
ME 2402	Fundamentals of Design Methods	3	1	-	4
ME 2403	Manufacturing Processes-1	3	-	-	3
ME 2404	Mechanisms of Machines	3	-	-	3
CE 2405	Fluid Mechanics and Hydraulic Machines	3	-	-	3
ME 2406	Manufacturing Techniques-1 Lab.	-	-	2	1
ME 2407	CAD Lab.	-	-	2	1
CE 2408	Fluid Mechanics Lab	-	-	2	1
ME 2409	Mechanisms of Machines Lab.	-	-	2	1
ME 2410	Project based Lab. (Production)	-	2	-	2
ME 2411	Professional Practice-2	-	1	-	1
ME 2403	Minor-2 Manufacturing Processes-1	3	-	-	3* (Extra)
Total Hours = 28		15	5	8	24
Total Credits (Cumulative)					91

*(Minor-2 Extra for other dept. not for parent)

Fifth Semester:

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
ME 2501	Engineering Management	3	1	-	4
EE 2502	Electrical Machines	3	-	-	3
ME 2503	I.C. Engines	3	-	-	3
ME 2504	Manufacturing Processes-2	3	-	-	3
ME 2505	Machine Design-1	3	1	-	4
ME 2506	Manufacturing Techniques-2 Lab.	-	-	2	1
ME 2507	I.C Engine Lab.	-	-	2	1
EE 2508	Electrical Machinery Lab.	-	-	2	1
ME 2509	Project based Lab. (Thermal)	-	2	-	2
ME 2510	Internship/Training/Tour	-	2	-	1
ME 2503	Minor-3 I.C. Engines	3	-	-	3* (Extra)
Total Hours = 27		15	6	6	23
Total Credits (Cumulative)					114

*(Minor-3 Extra for other dept. not for parent)

Sixth Semester:

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
CS 2601	Data Structures	3	1	-	4
ME 2602	Heat and Mass Transfer	3	1	-	4
ME 2603	Industrial Engineering and Operations Research	3	-	-	3
ME 2604	Turbo Machines	3	1	-	4
	Departmental Elective-1(A)	3	-	-	3
ME 2605	Advanced Production Techniques Lab.	-	-	2	1
ME 2606	Thermal Lab.-2	-	-	2	1
ME 2607	Heat and Mass Transfer Lab.	-	-	2	1
ME 2608	Project-1			4	2
ME 2603	Minor-4 Industrial Engineering and Operations Research	3	-	-	3* (Extra)
Total Hours = 28		15	3	10	23
Total Credits (Cumulative)					137

*(Minor-4 Extra for other dept. not for parent)

**MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY
BHOPAL – 462003**

REVISED SCHEME FOR BATCH ADMITTED IN 2020

(49th Senate, Item S-49.2022-I-2.7)

Department of Mechanical Engineering

B. Tech. (Mechanical Engineering)

SEVENTH SEMESTER

Course Code	Course Name	Scheme of Studies Periods per week			Credits
		L	T	P	
HUM 2701	Engineering Economics & IPR	3	-	-	3
ME 2702	Refrigeration and Air Conditioning	3	-	-	3
ME 2703	Machine Design-2	3	-	-	3
	Departmental Elective-2(A)	3	-	-	3
	Departmental Elective-3(A)	3	-	-	3
	Open Elective-1(C)	3	-	-	3
ME 2704	Refrigeration and Air Conditioning Lab	-	-	2	1
ME 2705	Project 2 Phase 1	-	1	2	2
ME 2706	Educational Tour & Training	-	-	2	1
ME 2702	Minor-5 Refrigeration and Air Conditioning	3	-	-	3 Extra*
Total Hours =25		18	1	6	22

*(Minor-5 Extra for other dept. not for parent)

EIGHTH SEMESTER

Course Code	Course Name	Scheme of Studies Periods per week			Credits
		L	T	P	
	Departmental Elective-4(A)	3	-	-	3
	Departmental Elective-5(A)	3	-	-	3
	Departmental Elective-6(A)	3	-	-	3
ME 2801 / ME 2802	Project 2 Phase 2 / Internship	-	-	12	6
ME 2803	General Proficiency	-	-	-	1
	Minor-6 Any of the above Electives	3	-	-	3 Extra*
Total Hours =21		9	-	12	16

*(Minor-6 Extra for other dept. not for parent)

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LIST OF ELECTIVES

List of Department Electives – Group A	
1.	ME 501 Additive Manufacturing Technologies
2.	ME 502 Advanced Production Engineering
3.	ME 503 Facility Management & Layout Planning
4.	ME 504 Flexible Manufacturing Systems
5.	ME 505 Mechatronics
6.	ME 506 Lean Manufacturing
7.	ME 507 Smart Materials
8.	ME 508 Nano Manufacturing
9.	ME 509 CAM & Robotics
10.	ME 510 Tool Engineering
11.	ME 511 Statistical Quality Control
12.	ME 512 Supply Chain Management
13.	ME 513 Entrepreneurship and New Venture Creation
14.	ME 514 Composite Materials
15.	ME 531 Energy Conversion Systems
16.	ME 532 Computational Combustion and Turbulence Modeling
17.	ME 533 Nuclear Power Engineering
18.	ME 534 Computational Fluid Dynamics
19.	ME 535 Gas Turbines and Jet Propulsion
20.	ME 536 Gas Dynamics
21.	ME 537 Automobile Engineering
22.	ME 538 Design of Heat Exchangers
23.	ME 539 Solar Energy
24.	ME 540 Non-Conventional Energy Sources
25.	ME 541 Energy Audit Carbon Sequestration
26.	ME 561 Theory of Elasticity and Plasticity
27.	ME 562 Fracture Mechanics and Failure Analysis
28.	ME 563 Theory of Vibrations
29.	ME 564 Mechanics of Composite Materials
30.	ME 565 Reliability Engineering
31.	ME 566 Advanced Dynamics of Machines
32.	ME 567 Computational Methods
33.	ME 568 Wind Energy Technology
34.	ME 569 Computer Aided Design
35.	ME 570 Engineering Optimization
36.	ME 571 CAD / CAM