

Maulana Azad National Institute of Technology, Bhopal – 462003
DEPARTMENT OF MATERIALS & METALLURGICAL ENGINEERING

SCHEME FOR B. TECH. (MME)
(Revised December 2020)

Third Semester:

Course Number	Subject	Scheme of Studies Periods per week			Total Credits
		L	T	P	
MTH 6301	Mathematics-3	3	1	-	4
HUM 6302	Fundamentals of Entrepreneurship	3	1	-	4
MM 6303	Fundamentals of Metal Extraction	3	-	-	3
MM 6304	Thermodynamics of Materials	3	1	-	4
MM 6305	Physical Metallurgy	3	-	-	3
MM 6306	Metal Extraction Lab	-	-	2	1
MM 6307	Physical Metallurgy Lab	-	-	2	1
MM 6308	Projects on Furnace Design	-	2	-	2
MM 6309	Professional Practice-1	-	1	-	1
Total Hours = 25		15	6	4	23
Total Credits (Cumulative)					68

Fourth Semester:

Course Number	Subject	Scheme of Studies Periods per week			Total Credits
		L	T	P	
MTH 6401	Mathematics-4	3	1	-	4
MM 6402	Design of Metallurgical Processes	3	1	-	4
MM 6403	Mechanical Behavior of Materials	3	-	-	3
MM 6404	Iron & Steel Making	3	1	-	4
MM 6405	Casting and Solidification	3	-	-	3
MM 6406	Materials Testing Lab	-	-	2	1
MM 6407	Foundry Lab.	-	-	2	1
MM 6408	Projects on Mechanical Metallurgy	-	2	-	2
MM 6409	Professional Practice-2	-	1	-	1
Total Hours = 25		15	6	4	23
Total Credits (Cumulative)					91

Fifth Semester:

Course Number	Subject	Scheme of Studies Periods per week			Total Credits
		L	T	P	
ME 6501	Mechanics of Materials	3	1	-	4
MM 6502	Materials Characterization	3	-	-	3
MM 6503	Welding and Joining Technology	3	-	-	3
MM 6504	Phase Transformation and Heat Treatment	3	-	-	3
ME 6505	Engineering Management	3	1	-	4
MM 6506	Heat Treatment Lab	-	-	2	1
MM 6507	Materials Characterization Lab	-	-	2	1
MM 6508	Projects on Welding and Joining	-	2		2
MM 6509	Internship/Training/Industrial Tours	-	2	-	1
Total Hours = 25		15	6	4	22
Total Credits (Cumulative)					113

Sixth Semester:

Course Number	Subject	Scheme of Studies Periods per week			Total Credits
		L	T	P	
CS 6601	Data Structures	3	1	-	4
MM 6602	Project-1	-	-	4	2
MM 6603	Metal Forming and Powder Metallurgy	3	-	-	3
MM 6604	Non-Ferrous Metal Extraction	3	1	-	4
MM 6605	Ceramics and Polymers	3	-	-	3
	Departmental Elective-1 (A)	3	1	-	4
MM 6606	Ceramics and Polymers Lab	-	-	2	1
MM 6607	Metal Forming and Powder Metallurgy Lab	-	-	2	1
Total Hours = 26		15	3	8	22
Total Credits (Cumulative)					135

**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 Materials and Metallurgical Engineering

B. Tech. (Materials and Metallurgical Engineering)

SEVENTH SEMESTER

Course Code	Course Name	Scheme of Studies Periods per week			Credits
		L	T	P	
HUM 6701	Engineering Economics & IPR	3	-		3
MME 6702	Corrosion and Surface Engineering	3	-	-	3
MME 6703	Fracture and Failure Analysis	3	-	-	3
	Department Elective-2(A)	3	-	-	3
	Department Elective-3(A)	3	-	-	3
	Open Elective-1(C)	3	-	-	3
MME 6704	Corrosion and Surface Engineering Lab	-	-	2	1
MME 6705	Project 2 Phase 1	-	1	2	2
MME 6706	Educational Tour & Training	-	-	2	1
Total Hours =25		18	1	6	22

EIGHTH SEMESTER

Course Code	Course Name	Scheme of Studies Periods per week			Credits
		L	T	P	
	Department Elective-4(A)	3	-	-	3
	Department Elective-5(A)	3	-	-	3
	Department Elective-6(A)	3	-	-	3
MME 6801 / MME 6802	Project 2 Phase 2 / Internship	-	-	12	6
MME 6803	General Proficiency	-	-	-	1
Total Hours =21		9	-	12	16

List of Electives
Group A - Department Electives MM 501 Functional Materials MM 502 Physics of Materials MM 503 Destructive and Non-Destructive Testing MM 504 Composite Materials MM 505 Polymer Engineering MM 506 Additive Manufacturing MM 507 Selection and Design of Materials MM 508 Biomaterials MM 509 Advanced Steel Making MM 510 Nuclear Materials MM 511 Extraction of Rare Earth Metals and Alloys MM 512 Utilization of Metallurgical Wastes MM 513 Light Weight Metallic Materials MM 514 Wear of Engineering of Materials MM 515 Advanced Manufacturing Processes MM 516 Welding Metallurgy MM 517 Non-equilibrium Processing of Materials MM 518 Advanced Materials and Processes MM 519 Computational Techniques in Metallurgy MM 520 Advanced Characterization Techniques MM 521 Advanced Ceramic Materials MM 522 Optical, Electronics and Magnetic Materials MM 523 Semiconductor Devices and Applications