

DEPARTMENT OF MME, MANIT, BHOPAL
PROPOSED SCHEME FOR BTECH (MSME)
 (Revised April 2020)

Third Semester:

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
MTH6301	Mathematics -3	3	1	-	4
HUM6302	Fundamentals of Entrepreneurship	3	1	-	4
MM6303	Fundamentals of Metal Extraction	3	1	-	4
MM6304	Thermodynamics of Materials	3	1	-	4
MM6305	Physical Metallurgy	3	1	-	4
MM6306	Metal Extraction Lab			2	1
MM6307	Physical Metallurgy Lab	-	-	2	1
MM6308	Projects on Furnace Design	-	2	-	2
Total Hours = 26		15	7	4	24
Total Credits (Cumulative)					69

Fourth Semester:

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
MTH6401	Mathematics -4	3	1	-	4
MM6402	Design of Metallurgical Processes	3	1	-	4
MM6403	Mechanical Behavior of Materials	3	1	-	4
MM6404	Iron & Steel Making	3	1	-	4
MM6405	Casting and Solidification	3	1	-	4
MM6406	Materials Testing Lab			2	1
MM6407	Foundry Lab.	-	-	2	1
MM6408	Projects on Mechanical Metallurgy	-	2	-	2
Total Hours = 26		15	7	4	24
Total Credits (Cumulative)					93

Fifth Semester:

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
ME6501	Mechanics of Materials	3	1	-	4
MM6502	Materials Characterization	3	1	-	4
MM6503	Welding and Joining Technology	3	1	-	4
MM6504	Phase Transformation and Heat Treatment	3	1	-	4
ME6505	Engineering Management	3	1		4
MM6506	Heat Treatment Lab			2	1
MM6507	Materials Characterization Lab			2	1
MM6508	Projects on Welding and Joining		2		2
MM6509	Internship/Training (6 weeks)		2		1
Total Hours = 28		15	9	4	25
Total Credits (Cumulative)					118

Sixth Semester:

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
CS6601	Data Structures	3	1	-	4
MM6602	Project-1	-	-	4	2
MM6603	Metal Forming and Powder Metallurgy	3	1		4
MM6604	Non-Ferrous Metal Extraction	3	1		4
MM6605	Ceramics and Polymers	3	1		4
	Departmental elective 1 (A)	3	1		4
MM6606	Ceramics and Polymers Lab		-	2	1
MM6607	Metal Forming and Powder Metallurgy Lab		-	2	1
Total Hours = 28		15	5	8	24
Total Credits (Cumulative)					142

Seventh Semester:

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
HUM6701	Engineering Economics & IPR	3	1	-	4
MM6702	Project-2 Phase -1			2	1
	Departmental Elective 2 (A)	3	1	-	4
MM6703	Corrosion and Surface Engineering	3	-	-	3
MM6704	Fracture and Failure Analysis	3	-	-	3
	Open Elective1 (C)	3	-	-	3
MM6705	Corrosion and Surface Engineering Lab			2	1
MM6706	Internship/Training		2		1
Total Hours = 23		15	4	4	20
Total Credits (Cumulative)					162

Eighth Semester:

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
MM6801	Project-2 Phase 2			4	2
	Departmental Elective-3 (A)	3	0	-	3
	Departmental Elective-4 (A)	3	0	-	3
	Departmental Elective-5 (A)	3	0	-	3
	Departmental Elective-6 (A)	3	0	-	3
	Department Elective-7(A)	3	0	-	3
MM6802	General Proficiency			2	1
Total Hours = 21		15	-	6	18
Total Credits (Cumulative)					180

List of Electives

Group A Department Electives

MM501	Functional Materials
MM502	Physics of Materials
MM503	Destructive and Non-Destructive Testing
MM504	Composite Materials
MM505	Polymer Engineering
MM506	Additive Manufacturing
MM507	Selection and Design of Materials
MM508	Biomaterials
MM509	Advanced Steel Making
MM510	Nuclear Materials
MM511	Extraction of Rare Earth Metals and Alloys
MM512	Utilization of Metallurgical Wastes
MM513	Light Weight Metallic Materials
MM514	Wear of Engineering of Materials
MM515	Advanced Manufacturing Processes
MM516	Welding Metallurgy
MM517	Non-equilibrium Processing of Materials
MM518	Advanced Materials and Processes
MM519	Computational Techniques in Metallurgy
MM520	Advanced Characterization Techniques
MM521	Advanced Ceramic Materials
MM522	Optical, Electronics and Magnetic Materials
MM523	Semiconductor Devices and Applications

Group – C Open Electives (for other departments)

MM701	Materials Characterization
MM702	Welding and Joining Technology
MM703	Introduction to Materials
MM704	Corrosion and Surface Engineering
MM705	Fracture and Failure Analysis
MM706	Advanced Ceramic Materials
MM707	Welding Metallurgy
MM708	Advanced Manufacturing Processes