

DEPARTMENT OF MECHANICAL ENGINEERING, MANIT, BHOPAL
PROPOSED SCHEME FOR B.TECH (MECHANICAL ENGINEERING)
(Revised April 2020)

Third Semester

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
MTH 2301	Mathematics-3	3	1	-	4
HUM2302	Fundamentals of Entrepreneurship	3	1	-	4
ME2303	Material Science and Engineering	3	-	-	3
ME2304	Mechanics of Materials	3	1	-	4
ME2305	Engineering Thermodynamics	3	1	-	4
ME2306	Material Characterization Lab.	-	-	2	1
ME2307	Thermal Engineering Lab.-1	-	-	2	1
ME2308	Mechanics of Materials Lab.	-	-	2	1
ME2309	Project based Lab. (Design)	-	2	-	2
ME2304	Minor1 Mechanics of Materials	3	1	-	4 (Extra)
Total Hours = 27		15	6	6	24
Total Credits (Cumulative)					69

(Extra for other deptt 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
ME2402	Fundamentals of Design Methods	3	-	-	3
ME2403	Manufacturing Processes-1	3	1	-	4
ME2404	Mechanisms of Machines	3	-	-	3
CE2405	Fluid Mechanics and Hydraulic Machines	3	1	-	4
ME2406	Manufacturing Techniques-1 Lab.	-	-	2	1
ME2407	CAD Lab.	-	-	2	1
CE2408	Fluid Mechanics Lab	-	-	2	1
ME2409	Mechanisms of Machines Lab.	-	-	2	1
ME2410	Project based Lab. (Production)	-	2	-	2
ME2403	Minor-2 Manufacturing Processes-1	3	1	-	4(Extra)
Total Hours = 28		15	5	8	24
Total Credits (Cumulative)					93

(Extra for other deptt 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	1	-	4
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	-	2	-	1
ME 2503	Minor-3 I.C.Engines	3	1	-	4(Extra)
Total Hours = 28		15	7	6	24
Total Credits (Cumulative)					117

(Extra for other deptt 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	1	-	4
ME 2604	Turbo Machines	3	1	-	4
	Department 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	1	-	4(Extra)
Total Hours =29		15	4	10	24
Total Credits (Cumulative)					141

(Extra for other deptt not for parent)

Seventh Semester

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
HUM 2701	Engineering Economics and IPR	3	1	-	4
ME 2702	Refrigeration and Air Conditioning	3	-	-	3
ME 2703	Machine Design-2	3	1	-	4
	Department Elective-2(A)	3	-	-	3
	Open Elective – 1(C)	3	-	-	3
ME 2704	Refrigeration and A/C Lab.	-	-	2	1
ME 2705	Internship/Training	-	2	-	1
ME 2706	Project-2 Phase-1	-	-	2	1
ME 2702	Minor-5Refrigeration and Air Conditioning	3	-	-	3(Extra)
Total Hours =23		15	4	4	20
Total Credits (Cumulative)					161

(Extra for other deptt not for parent)

Eighth Semester

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
	Department Elective-3(A)	3	-	-	3
	Department Elective-4(A)	3	-	-	3
	Department Elective-5(A)	3	-	-	3
	Department Elective-6(A)	3	-	-	3
	Department Elective-7(A)	3	-	-	3
ME 2801	Project-2 phase-2	-	-	6	3
ME 2802	General Proficiency	-	-	2	1
	Minor-6 Any Elective	3	-	6	3(Extra)
Total Hours =23		15	-	8	19
Total Credits (Cumulative)					180

(Extra for other deptt not for parent)

LIST OF ELECTIVES					
PRODUCTION		THERMAL		DESIGN	
Group-A		Group-A		Group-A	
ME501	Additive manufacturing technologies	ME531	Energy conversion systems	ME561	Theory of elasticity & plasticity
ME502	Advanced production engineering	ME532	Computational combustion and turbulence modeling	ME562	Fracture mechanics and failure analysis
ME503	Facility management & layout planning	ME533	Nuclear power engineering	ME563	Theory of vibration
ME504	Flexible manufacturing systems	ME534	Computational fluid dynamics	ME564	Mechanics of composite materials
ME505	Mechatronics	ME535	Gas turbines and jet propulsion	ME565	Reliability engineering
ME506	Lean manufacturing	ME536	Gas dynamics	ME566	Advance dynamics of machines
ME507	Smart materials	ME537	Automobile engineering		
ME508	Nano manufacturing	ME538	Design of heat exchangers	ME567	Computational Methods
ME509	CAM & Robotics	ME539	Solar energy	ME568	Wind Energy Technology
ME510	Tool Engineering	ME540	Non conventional energy sources	ME569	Computer aided design
ME511	Statistical Quality Control			ME570	Engineering optimization
ME512	Supply chain management	ME541	Energy audit carbon sequestration		
ME513	Entrepreneurship and new venture creation				
ME514	Composite materials				
	Group-C		Group-C		Group-C
ME701	Statistical Quality Control	ME731	Solar energy	ME761	Wind Energy Technology
ME702	Total quality management	ME732	Non conventional energy sources	ME762	Computer aided design
ME703	Supply chain management	ME733	Energy audit carbon sequestration	ME763	Computational methods
ME704	Materials handling			ME764	Engineering optimization
ME705	Marketing management			ME765	Mechanics of deformable solids
ME706	Human factors and ergonomics				
ME707	Materials			ME766	Experimental

ME708	management Entrepreneurship and new venture creation			ME767	stress analysis Industrial tribology
ME709	Heat treatment and surface hardening				
ME710	Composite materials				

Group A Program Electives

Group C Open Electives (for other departments)