

Course Curriculum of B.Tech Mechanical Engineering Programme

2nd Year, 3rd SEMESTER

Subject Type	Subject Code	Subject Name	Contact hours/Week				Total Credits
			L	T	P	Total	
THEORY:							
PC	ME 301	APPLIED THERMODYNAMICS	3	0	0	3	3
PC	ME 302	STRENGTH OF MATERIALS	3	0	0	3	3
PC	ME 303	FLUID MECHANICS	3	0	0	3	3
ES	EE(ME) 301	ELECTRICAL MACHINES	3	0	0	3	3
BS	M(ME) 301	MATHEMATICS- III	3	0	0	3	3
BS	PH(ME) 301	PHYSICS- II	3	0	0	3	3
PRACTICAL:							
PC	ME 391	STRENGTH OF MATERIALS LAB	0	0	3	3	2
PC	ME 392	MACHINE DRAWING- I	0	0	3	3	2
ES	EE(ME) 391	ELECTRICAL MACHINES LAB	0	0	2	2	1
BS	PH(ME) 391	PHYSICS-II LAB	0	0	3	3	2
SESSIONAL							
MC	MC 381	TECHNICAL SKILL DEVELOPMENT	0	0	2	2 UNITS	0
Total: Eleven			18	0	13	31	25

2nd Year, 4th SEMESTER

Subject Type	Subject Code	Subject Name	Contact Hours/Week				Total Credits
			L	T	P	Total	
THEORY:							
PC	ME 401	FLUID MACHINERY	3	0	0	3	3
PC	ME 402	PRIMARY MANUFACTURING PROCESS	3	0	0	3	3
PC	ME 403	ENGINEERING MATERIALS	3	0	0	3	3
PC	ME 404	MECHANISMS	3	0	0	3	3
BS	M(ME)401	NUMERICAL METHODS	3	0	0	3	3
HU	HU 401	ENVIRONMENTAL SCIENCE	2	0	0	2	2
PRACTICAL:							
PC	ME 491	FLUID MECHANICS & HYDRAULIC MACHINES LAB	0	0	3	3	2
PC	ME 492	MANUFACTURING TECHNOLOGY LAB	0	0	2	3	2
PC	ME 493	MATERIAL TESTING LAB	0	0	2	3	2
PC	ME 494	MACHINE DRAWING-II	0	0	3	3	2
BS	M(ME) 491	NUMERICAL METHODS LAB	0	0	3	3	2
SESSIONAL							
HS	HU 481	TECHNICAL REPORT WRITING & LANGUAGE PRACTICE	0	0	2	2	1
Total: Twelve			17	0	15	34	28

3rd Year, 5th SEMESTER

Subject Type	Subject Code	Subject Name	Contact Hours/Week				Total Credits
			L	T	P	Total	
THEORY:							
PC	ME 501	HEAT TRANSFER	3	0	0	3	3
PC	ME 502	DESIGN OF MACHINE ELEMENTS-I	3	0	0	3	3
PC	ME 503	DYNAMICS OF MACHINES	3	0	0	3	3
PC	ME 504	METROLOGY & MEASUREMENT	3	0	0	3	3
HU	HU(ME) 501	VALUES & ETHICS	2	0	0	2	2
PE-I	ME 505A	REFRIGERATION & AIR CONDITIONING	3	0	0	3	3
	ME 505B	MECHATRONICS					
	ME 505C	APPLIED FLUID MECHANICS					
PRACTICAL:							
PC	ME591	HEAT TRANSFER LAB	0	0	3	3	2
PC	ME 592	DYNAMICS OF MACHINES LAB	0	0	3	3	2
PC	ME 593	METROLOGY & MEASUREMENT LAB	0	0	2	2	1
PE LAB-I	ME 594 A	REFRIGERATION & AIR CONDITIONING LAB	0	0	3	3	2
	ME 594 B	MECHATRONICS LAB					
	ME 594 C	APPLIED FLUID MECHANICS LAB					
SESSIONAL							
PROJECT	ME 581	MINI PROJECT-I	0	0	3	3	2
MC	MC 582	SEMINAR	0	0	2	2	0
		TOTAL: Twelve	17	0	16	33	26

3rd Year: 6th SEMESTER

Subject Type	Subject Code	Subject Name	Contact Hours/Week				Total Credits
			L	T	P	Total	
THEORY:							
PC	ME 601	MACHINING PRINCIPLES & MACHINE TOOLS	3	0	0	3	3
PC	ME 602	DESIGN OF MACHINE ELEMENTS-II	3	0	0	3	3
PC	ME 603	IC ENGINE & GAS TURBINE	3	0	0	3	3
PE-II	ME 604A	ROBOTICS: MECHANICS AND CONTROL	3	0	0	3	3
	ME 604B	COMPOSITE MATERIALS					
	ME 604C	FLUID POWER CONTROL					
OE-I	ME605A	RENEWABLE ENERGY SYSTEMS	3	0	0	3	3
	ME 605B	COMPUTATIONAL FLUID DYNAMICS					
	ME 605C	GAS DYNAMICS AND JET PROPULSION					

PRACTICAL:							
PC	ME 691	MACHINING & MACHINE TOOLS LAB	0	0	3	3	2
PC	ME 692	DESIGN PRACTICE LAB	0	0	2	2	1
PC	ME 693	I C ENGINE LAB	0	0	3	3	2
PE LAB-II	ME 694 A	ROBOTICS LAB	0	0	3	3	2
	ME 694 B	COMPOSITE MATERIALS LAB					
	ME 694 C	FLUID POWER CONTROL LAB					
SESSIONAL:							
PROJECT	ME 681	MINI PROJECT-II	0	0	3	3	2
MANDATORY	MC 682	GROUP DISCUSSION	0	0	2	2	0
		TOTAL: Eleven	15	0	16	31	24

Note: Vacational Training to be conducted up to 6th semester and to be evaluated in 7th semester.

4th Year: 7th SEMESTER

Subject Type	Subject Code	Subject Name	Contact Hours/Week				Total Credits
			L	T	P	Total	
THEORY:							
PC	ME 701	POWER PLANT ENGINEERING	3	0	0	3	3
PC	ME 702	ADVANCED MANUFACTURING TECHNOLOGY	3	0	0	3	3
PE-III	ME 703 A	ADVANCED WELDING TECHNOLOGY	3	0	0	3	3
	ME 703 B	BIOMECHANICS & BIOMATERIALS					
	ME 703 C	FINITE ELEMENT METHOD					
PE-IV	ME 704 A	TRIBOLOGY	3	0	0	3	3
	ME 704 B	OPERATIONS RESEARCH					
	ME 704 C	MATERIALS HANDLING					
OE-II	ME 705 A	ENERGY CONSERVATION & MANAGEMENT	3	0	0	3	3
	ME 705 B	QUALITY & RELIABILITY ENGINEERING					
	ME 705 C	HYDRO, WIND AND WAVE POWER					
PRACTICAL:							
PC	ME 791	ADVANCED MANUFACTURING LAB	0	0	2	2	1
PE-III lab	ME 793 A	ADVANCED WELDING LAB	0	0	2	2	1
	ME 793 B	BIOMECHANICS & BIOMATERIALS LAB					
	ME 793 C	FINITE ELEMENT METHOD LAB					
SESSIONAL:							
PW	ME 781	PROJECT- I	0	0	6	6	3
PW	ME 782	DESIGN OF MECHANICAL SYSTEM	0	0	3	3	2
PW	ME 783	VIVA-VOCE ON VACATIONAL TRAINING	0	0	0	0	2
		TOTAL: Ten	15	0	13	28	24

4th Year: 8th SEMESTER

Subject Type	Subject Code	Subject Name	Contact Hours/Week				Total Credits
			L	T	P	Total	
THEORY:							
HU	HU(ME)801	PRODUCTION & OPERATIONS MANAGEMANT	2	0	0	2	2
PE-V	ME 802A	AUTOMOBILE ENGINEERING	3	0	0	3	3
	ME 802B	CAD/CAM					
	ME 802C	AUTOMATION & CONTROL					
OE-III	ME 803A	TURBO MACHINERY	2	0	0	2	2
	ME 803B	MAINTENANCE ENGINEERING					
	ME 803C	NUMERICAL HEAT TRANSFER					
OE-IV	ME 804A	SAFETY & OCCUPATIONAL HEALTH	2	0	0	2	2
	ME 804B	NUCLEAR POWER GENERATION AND SUPPLY					
	ME 804C	FRACTURE MECHANICS					
SESSIONAL:							
PW	ME 881	PROJECT II	0	0	12	12	6
PW	ME 882	GRAND VIVA	0	0	0	0	2
		TOTAL: SIX	9	0	12	21	17

HS	Humanities and Social Sciences	PC	Professional -Core
BS	Basic Sciences	PE	Professional -Electives
ES	Engineering Sciences	OE	Open Electives

Credit points evaluation for B.Tech (ME) Programme (JISCE/ NIT)

Total Credit: 198

Humanities and Social Sciences including Management (HS)					
Course Code	Credits	Total Credits	Range of Total credits (%) as per AICTE		Assigned Credits Autonomy syllabus (%)
			Min.	Max.	
HU101	2	10	5	10	5.05
HU191	1				
HU 401	2				
HU 481	1				
HU(ME)501	2				
HU(ME)801	2				
Basic Sciences including Mathematics, Physics, Chemistry, Biology (BS)					
Course Code	Credits	Total Credits	Range of Total credits (%) as per AICTE		Assigned Credits for Autonomy syllabus (%)
			Min.	Max.	
CH201	4	33	15	20	16.66
M101	4				
CH291	2				
PH101	4				

M201	4			
PH191	2			
M(ME)301	3			
PH(ME)301	3			
PH(ME)391	2			
M(ME)401	3			
M(ME)491	2			

Engineering Sciences (ES)

Course Code	Credits	Total Credits	Range of Total credits (%) as per AICTE norms		Assigned Credits for Autonomy syllabus (%)
			Min.	Max.	
ME101	4	33	15	20	16.66
EE101	4				
ME191	2				
EE191	2				
CS201	3				
ME201	4				
EC201	4				
EC291	2				
ME291	2				
CS291	2				
EE(ME)301	3				
EE(ME)391	1				

Professional Subjects-Core (PC)

Course Code	Credits	Total Credits	Range of Total credits (%) as per AICTE norms		Assigned Credits for Autonomy syllabus (%)
			Min.	Max.	
ME301	3	71	30	40	35.85
ME302	3				
ME303	3				
ME391	2				
ME 392	2				
ME401	3				
ME402	3				
ME403	3				
ME404	3				
ME 491	2				
ME 492	2				
ME 493	2				
ME 494	2				
ME501	3				
ME 502	3				
ME 503	3				
ME 504	3				
ME 591	2				
ME 592	2				
ME 593	1				
ME 601	3				
ME 602	3				
ME 603	3				
ME 691	2				
ME 692	1				
ME 693	2				

ME 701	3				
ME 702	3				
ME 791	1				
Professional Subjects – Electives (PE)					
Course Code	Credits	Total Credits	Range of Total credits (%) as per AICTE norms Min. Max.		Assigned Credits for Autonomy syllabus (%)
ME 505(A/B/C)	3	20	10	15	10.05
ME 594(A/B/C)	2				
ME 604(A/B/C)	3				
ME 694(A/B/C)	2				
ME 703(A/B/C)	3				
ME704(A/B/C)	3				
ME 793(A/B/C)	1				
ME 802(A/B/C)	3				
Open Subjects- Electives (OE)					
Course Code	Credits	Total Credits	Range of Total credits (%) as per AICTE norms Min. Max.		Assigned Credits for Autonomy syllabus (%)
ME 605(A/B/C)	3	10	5	10	5.05
ME 705(A/B/C)	3				
ME 803(A/B/C)	2				
ME 804(A/B/C)	2				
Project Work, Seminar and/or Internship in Industry					
Course Code	Credits	Total Credits	Range of Total credits (%) as per AICTE norms Min. Max.		Assigned Credits for Autonomy syllabus (%)
ME 581	2	20	10	15	10.10
ME 681	2				
ME 781	3				
ME 782	2				
ME 783	2				
ME 881	6				
ME 882	2				
XC 181	1				