

Curriculum for B.Tech Degree Programme



Department of Mechanical Engineering

(From 2017 Batch Onwards)

**National Institute of Technology Puducherry
Karaikal – 609 609**

March 2017

Total Number of Credits

Semester	Core Theory	Core Lab	Mathematics	Humanities	Dep. Elect.	Global Elect	Proj	Total Credits
III	15	4	3	-	-	-	-	22
IV	15	4	3	-	-	-	-	22
V	12	4	-	-	3	3	-	22
VI	6	2	-	2	6	3	-	19
VII	-	-	-	3	12	3	2	20
VIII	-	-	-	-	12	-	4	16
Total	48	14	6	5	33	9	6	121

I & II = 39 Credits, III to VIII = 121Credits

Total Credits = 160 Credits

Department Of Mechanical Engineering

Starting from the Academic Year 2017 – 2018

SEMESTER- III

CODE	COURSE OF STUDY	L	T	P	C
MA209	Special Functions and Probability				
	Theory	3	0	0	3
ME201	Engineering Thermodynamics	3	0	0	3
ME203	Engineering Metallurgy	3	0	0	3
ME205	Production Technology	3	0	0	3
ME207	Strength of Materials	3	0	0	3
ME209	Machine Drawing and Cost	3	0	0	3
	Estimation				
Practical					
ME211	Metallurgy Lab	0	0	3	2
ME213	Strength of Materials Lab	0	0	3	2
	Total	18	0	6	22

SEMESTER- IV

CODE	COURSE OF STUDY	L	T	P	C
MA210	Transforms and Partial Differential				
	Equations	3	0	0	3
ME204	Conventional and CNC Machines	3	0	0	3
ME206	Heat and Mass Transfer	3	0	0	3
ME208	Mechanics of Machines	3	0	0	3
ME210	Fluid Mechanics and Hydraulics	3	0	0	3
ME212	Automobile Engineering	3	0	0	3
Practical					
ME214	Fluid Mechanics and Hydraulics Lab	0	0	3	2
ME216	Conventional and CNC machines	0	0	3	2
	Lab				
	Total	18	0	6	22

SEMESTER V

CODE	COURSE OF STUDY	L	T	P	C
ME301	Engineering Measurements	3	0	0	3
ME303	Computer Aided Design and Drafting	3	0	0	3
ME305	Dynamics of Machines	3	0	0	3
ME307	Analysis and Design of Machine Components	3	0	0	3
ME5XX	Elective -I	3	0	0	3
XXXXX	Global Elective -I	3	0	0	3

Practical

ME309	Measurements, Metrology and Dynamics Lab	0	0	3	2
ME311	Computer Aided Design Drafting Practice	0	0	3	2
Total		18	0	6	22

SEMESTER VI

CODE	COURSE OF STUDY	L	T	P	C
HM302	Professional Ethics and Human Values	2	0	0	2
ME302	Design of Mechanical Drives	3	0	0	3
ME304	Thermal Engineering	3	0	0	3
ME5XX	Elective-II	3	0	0	3
ME5XX	Elective-III	3	0	0	3
XXXXX	Global Elective -II	3	0	0	3

Practical

ME306	Thermal Engineering Lab	0	0	3	2
Total		17	0	3	19

SEMESTER VII

CODE	COURSE OF STUDY	L	T	P	C
HM401	Managerial Economics and Principles of Management	3	0	0	3
ME5XX	Elective – IV	3	0	0	3
ME5XX	Elective – V	3	0	0	3
ME5XX	Elective – VI	3	0	0	3
ME5XX	Elective – VII	3	0	0	3
XXXXX	Global Elective -III	3	0	0	3
Practical					
ME491	Project Phase -I	0	0	0	2
Total		18	0	0	20

SEMESTER VIII

CODE	COURSE OF STUDY	L	T	P	C
ME5XX	Elective – VIII	3	0	0	3
ME5XX	Elective – IX	3	0	0	3
ME5XX	Elective – X	3	0	0	3
ME5XX	Elective – XI	3	0	0	3
Practical					
ME492	Project Phase -II	0	0	15	4
Total		12	0	15	16

Total Credits for I Year (I and II Sem) – 39; (III to VIII Semester) – 121;
Total Credits for Mechanical Engineering - 160

LIST OF ELECTIVES

SEMESTER V – Electives

CODE	COURSE OF STUDY	L	T	P	C
ME501	Computational Fluid Dynamics	3	0	0	3
ME503	IT Applications in Manufacturing	3	0	0	3
ME505	Theory of Metal Cutting	3	0	0	3
ME507	Control System Engineering	3	0	0	3
ME509	Mechatronics	3	0	0	3

SEMESTER VI – Electives

CODE	COURSE OF STUDY	L	T	P	C
ME502	Finite Element Methods	3	0	0	3
ME504	Advanced I.C Engines	3	0	0	3
ME506	Advanced Heat and Mass Transfer	3	0	0	3
ME508	Design of Gears and Cams	3	0	0	3

SEMESTER VII– Electives

CODE	COURSE OF STUDY	L	T	P	C
ME511	Design of Heat Exchangers	3	0	0	3
ME513	Industrial Work Study	3	0	0	3
ME515	MEMS Devices – Design and Fabrication	3	0	0	3
ME517	Refrigeration and Air Conditioning	3	0	0	3
ME519	Welding Engineering	3	0	0	3
ME521	Pressure Vessel Design	3	0	0	3
ME523	Solar Power Engineering	3	0	0	3
ME525	Industrial Engineering and Management	3	0	0	3
ME527	Metal Forming Processes	3	0	0	3

SEMESTER VIII– Electives

CODE	COURSE OF STUDY	L	T	P	C
ME510	Industrial Robotics	3	0	0	3
ME512	Combustion Engineering	3	0	0	3
ME514	Industrial Safety and Maintenance Engineering	3	0	0	3
ME516	Renewable Energy	3	0	0	3
ME518	Mechanical Vibrations	3	0	0	3
ME520	Petroleum Engineering	3	0	0	3
ME522	Composite Materials	3	0	0	3
ME524	Operation Research	3	0	0	3
ME526	Automotive Fuels, Pollution, and Control	3	0	0	3
ME528	Advanced Machining Processes	3	0	0	3
ME530	Direct Energy Conversion	3	0	0	3
ME532	Fundamentals and Principles Of Fuel Cells	3	0	0	3
ME534	Nuclear Power Engineering	3	0	0	3

**Global Electives Offered by Department of Mechanical Engineering
(Based on the availability of Faculty Members)**

ME1001	Applied Thermodynamics	3	0	0	3
ME1002	Introduction to Mechatronics	3	0	0	3
ME1003	Computer Aided Design	1	0	2	3
ME1004	Total Quality Management	3	0	0	3
ME1005	Utilization of Solar Energy	3	0	0	3

Note: Among the Global Electives (I, II, and III), and Department Electives (from fifth semester to eighth Semester), the following courses are essential courses for the completion of the B.Tech Mechanical Engineering Degree.

- (a) Applied Electrical and Electronics Engineering (At present offered by Department of EEE, as Global Electives)
- (b) Refrigeration and Air Conditioning (At present, it is available in the VII Semester Mechanical Department Electives.
