

**Dual Degree (B.Tech & M.Tech) Curriculum**  
**Mechanical Engineering**  
For B.Tech 2017 Batch

**SEMESTER – I:**

S.No	Course No	Course Name	Category	L-T-P-C
1.	CS1100	Computational Engineering	BET	2-0-3-4
2.	CY1010	Chemistry – I (Physical & Theoretical)	SCY	2-1-0-3
3.	ID1100	Concepts in Engineering & Design	BET	3-0-0-3
4.	MA1010	Mathematics-I	SMA	3-1-0-4
5.	ME1120	Engineering Drawing	BES	1-0-3-3
6.	PH1010	Physics-I	SPH	2-1-0-3
7.	PH1030	Physics Laboratory	SPH	0-0-3-2
8.	WS1010	Workshop-I	BES	0-0-3-2
<b>Total</b>				<b>24</b>

**SEMESTER – II:**

S.No	Course No	Course Name	Category	L-T-P-C
1.	AM1100	Engineering Mechanics	BET	3-1-0-4
2.	CY1020	Chemistry – II (Organic & Inorganic)	SCY	2-1-0-3
3.	CY1030	Chemistry Laboratory	SCY	0-0-3-2
4.	GN1100	Life Skills	BES	2-0-0-2
5.	ID1200	Ecology and Environment	BET	2-0-0-2
6.	MA1020	Mathematics-II	SMA	3-1-0-4
7.	ME1100	Thermodynamics	BET	2-1-0-3
8.	PH1020	Physics – II	SPH	2-1-0-3
9.	WS1020	Workshop – II	BES	0-0-3-2
<b>Total</b>				<b>25</b>

**SEMESTER – III:**

S.No	Course No	Course Name	Category	L-T-P-C
1.	AM2200	Strength of Materials	PMT	3-1-0-4
2.	AM2530	Foundations of Fluid Mechanics	PMT	3-1-0-4
3.	ME2050	Machine Drawing Practice	PMT	0-0-6-4
4.	EE1100	Basic Electrical Engineering	BET	3-0-0-3
5.	BT1010	Life Sciences	SLS	2-0-0-2
6.	MAE1	Mathematics Elective 1	SMA	3-0-0-3
7.	HSE1	Humanities Elective 1	HSS	3-0-0-3
<b>Total</b>				<b>23</b>

**SEMESTER – IV:**

S.No	Course No	Course Name	Category	L-T-P-C
1.	AM2540	Applied Mechanics Laboratory	PML	0-0-3-2
2.	AM2220	Kinematics and Dynamics of Machinery	PMT	3-1-0-4
3.	ME2260	Materials and Design	PMT	3-1-0-4
4.	ME2280	Manufacturing Technology	PMT	4-0-0-4
5.	ME3170	Heat Transfer	PMT	3-1-0-4
6.	MAE2	Mathematics Elective 2	SMA	3-0-0-3
7.	HSE2	Humanities Elective 2	HSS	3-0-0-3
<b>Total</b>				<b>24</b>

### **SEMESTER - V:**

S.No	Course No	Course Name	Category	L-T-P-C
1.	ME2240	Instrumentation & Control	PMT	3-1-0-4
2.	ME3190	Machine Tools & Metrology	PMT	3-1-0-4
3.	ME3270	Mechanical Engineering Laboratory I	PML	0-0-3-2
4.	ME3310	Turbomachines	PMT	3-1-0-4
5.	ME3330	Internal Combustion Engines	PMT	3-0-0-3
6.	ME3350	Design of Machine Elements	PMT	3-1-0-4
7.	FRE1	Free Elective 1	FRE	3-0-0-3
<b>Total</b>				<b>24</b>

### **SEMESTER -VI:**

S.No	Course No	Course Name	Category	L-T-P-C
1.	ME3212	Applied Thermal Engineering	PMT	3-1-0-4
2.	ME3214	Manufacturing Systems	PMT	3-0-0-3
3.	ME3280	Mechanical Engineering Laboratory II	PML	0-0-3-2
4.	ME3500	Industrial/ Research internship	PIT	- - - 2
5.	DPE1	Department Elective 1	PMT	3-0-0-3
6.	FRE2	Free Elective 2	FRE	3-0-0-3
7.	FRE3	Free Elective 3	FRE	3-0-0-3
<b>Total</b>				<b>20</b>

### **SEMESTER-VII:**

S. No	Course No	Course Name	Category	L-T-P-C
1.	HSE3	Humanities Elective-3	PMT	3-0-0-3
2.	ME3300	Mechanical Engineering Laboratory III	PMT	0-0-3-2
3.	IL4101	Industrial Lecture	PIL	1-0-0-1
4.	ME5101	Computational Fluid Dynamics	PMT	3-0-0-3
5.	ME5204	Advanced Manufacturing Processes	PMT	3-0-0-3
6.	DPE2	Department Elective 2	PMT	3-0-0-3
7.	DPE3	Department Elective 3	PMT	3-0-0-3
8.	FRE4	Free Elective 4	PMT	3-0-0-3
<b>Total</b>				<b>21</b>

### **SEMESTER -VIII:**

S. No	Course No	Course Name	Category	L-T-P-C
1.	HS4202	Professional Ethics	HPE	2-0-0-2
2.	DPE4	Department Elective 4	PMT	3-0-0-3
3.	ME5102	Finite Element Methods in Engineering Mechanics	PMT	3-0-0-3
4.	ME5206	Additive Manufacturing	PMT	3-0-0-3
5.	DPE5	Department Elective 5	PMT	3-0-0-3
6.	FRE4	Free Elective 5	FRE	3-0-0-3
7.	ME6110	Seminar	PMT	- - - 1
<b>Total</b>				<b>21</b>

## Semester - IX

S. No	Course No	Course Name	Category	L-T-P-C
1.	ME6111	Viva-Voce	PMT	0-0-0-2
2.	DPE6	Department Elective 6	PMT	3-0-0-3
3.	ME6150	Project Phase-I	PMP	- - - 10
<b>Total</b>				<b>15</b>

## Semester - X

S. No	Course No	Course Name	Category	L-T-P-C
1.	ME6250	Project Phase-II	PMP	- - - 15
<b>Total</b>				<b>15</b>

**Total Credits –209**

### Department Electives

#### **Solid Mechanics and Design:**

- CE5103 Advanced Mechanics of Solids  
ME5021 Mechanical Vibrations  
ME5023 Composite Materials  
ME5027 Introduction to Continuum Mechanics  
ME5202 Product Design and Development  
ME5221 Mechanics and Control of Robotic Manipulators  
ME5222 Wheeled Mobile Robots  
ME6024 Wave Propagation in Solids  
ME6221 Theory of Plasticity  
ME6222 Vibrations of Continuous Systems  
ME7221 Nonlinear Finite Element Methods

#### **Manufacturing:**

- ME5030 Welding Metallurgy  
ME5031 Abrasive Machining and Finishing Processes  
ME5033 Tribology and Surface Engineering  
ME5111 Additive Manufacturing  
ME5XXX CAD/CAM  
ME5XXX Metrology and Computer Aided Inspection  
ME5204 Advanced Manufacturing Processes  
ME5206 Design for Manufacturing and Assembly

#### **Fluids and Thermal:**

- ME5022 Measurements in Thermal Engineering  
ME5025 Compressible Flow  
ME5104 Advanced Fluid Mechanics  
ME5210 Convective Heat Transfer  
ME6021 Advanced Thermodynamics