

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI**  
**CHOICE BASED CREDIT SYSTEM (CBCS)**  
**SCHEME OF TEACHING AND EXAMINATION 2015-2016**

**B.E. Mechanical Engineering**

**III SEMESTER**

Sl. No	Subject Code	Title	Teaching Hours /Week			Examination				Credits
			Lecture	Tutorial	Practical	Duration (Hours)	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15MAT31	Engineering Mathematics – III	4	0	0	03	80	20	100	4
2	15ME32	Materials Science	4	0	0	03	80	20	100	4
3	15ME33	Basic Thermodynamics	3	2	0	03	80	20	100	4
4	15ME34	Mechanics of Materials	3	2	0	03	80	20	100	4
5	15ME35A/ 15ME35B	Metal casting and welding/ Machine tools and Operations	4	0	0	03	80	20	100	4
6	15ME46A/ 15ME46B	Computer Aided Machine Drawing/ Mechanical Measurements and Metrology	2	0	4	<b>04</b>	80	20	100	<b>3/</b>
			4	0	0	<b>03</b>				<b>4</b>
7	15MEL37A/ 15MEL37B	Materials Testing Lab / Mechanical Measurements and Metrology Lab	1	0	2	03	80	20	100	2
8	15MEL38A/ 15MEL38B	Foundry and Forging Lab / Machine Shop/	1	0	2	03	80	20	100	2
<b>TOTAL</b>			<b>22</b>	<b>04</b>	<b>08</b>		<b>640</b>	<b>160</b>	<b>800</b>	<b>27/28</b>

**1. Core subject:** This is the course, which is to be compulsorily studied by a student as a core requirement to complete the requirement of a programme in a said discipline of study.

**2. Foundation Course:** The courses based upon the content that leads to Knowledge enhancement.

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**IV SEMESTER**

Sl. No	Subject Code	Title	Teaching Hours /Week			Examination				Credits
			Lecture	Tutorial	Practical	Duration (Hours)	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15MAT 41	Engineering Mathematics – IV	4	0	0	03	80	20	100	4
2	15ME42	Kinematics of Machinery	3	2	0	03	80	20	100	4
3	15ME43	Applied Thermodynamics	3	2	0	03	80	20	100	4
4	15ME 44	Fluid mechanics	3	2	0	03	80	20	100	4
5	15ME45A/ 15ME45B	Metal casting and welding/ Machine Tools and Operations	4	0	0	03	80	20	100	4
6	15ME46A/ 15ME46B	Computer Aided Machine Drawing/ Mechanical Measurements and Metrology	2	0	4	04	80	20	100	3/
			4	0	0	03				4
7	15MEL47A/ 15MEL47B	Materials Testing Lab / Mechanical Measurements and Metrology Lab	1	0	2	03	80	20	100	2
8	15MEL48A/ 15MEL48B	Foundry and Forging Lab / Machine Shop/	1	0	2	03	80	20	100	2
<b>TOTAL</b>			<b>21</b>	<b>06</b>	<b>08</b>		<b>640</b>	<b>160</b>	<b>800</b>	<b>27/28</b>

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**V SEMESTER**

Sl. No	Subject Code	Title	Teaching Hours /Week			Examination				Credits
			Lecture	Tutorial	Practical	Duration (Hours)	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15ME51	Engineering Management & Economics	4	0	0	03	80	20	100	4
2	15ME52	Dynamics of Machinery	3	2	0	03	80	20	100	4
3	15ME53	Turbo Machines	3	2	0	03	80	20	100	4
4	15ME54	Design of Machine Elements - I	3	2	0	03	80	20	100	4
5	15ME55X	Professional Elective-I	3	0	0	03	80	20	100	3
6	15ME56X	Open Elective-I	3	0	0	03	80	20	100	3
7	15MEL57	Fluid Mechanics & Machinery Lab	1	0	2	03	80	20	100	2
8	15MEL58	Energy Lab	1	0	2	03	80	20	100	2
<b>TOTAL</b>			<b>21</b>	<b>06</b>	<b>04</b>		<b>640</b>	<b>160</b>	<b>800</b>	<b>26</b>

Professional Elective-I		Open Elective-I	
15ME551	Refrigeration and Air-conditioning	15ME561	Optimization Techniques
15ME552	Theory of Elasticity	15ME562	Energy and Environment
15ME553	Human Resource Management		
15ME554	Non Traditional Machining		

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- 2. Professional Elective:** Elective relevant to chosen specialization/ branch
- 3. OpenElective:** Electives from other technical and/or emerging subject areas.

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**VI SEMESTER**

Sl. No	Subject Code	Title	Teaching Hours /Week			Examination				Credits
			Lecture	Tutorial	Practical	Duration (Hours)	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15ME61	Finite Element Analysis	3	2	0	03	80	20	100	4
2	15ME62	Computer integrated Manufacturing	4	0	0	03	80	20	100	4
3	15ME63	Heat Transfer	3	2	0	03	80	20	100	4
4	15ME64	Design of Machine Elements -II	3	2	0	03	80	20	100	4
5	15ME65X	Professional Elective-II	3	0	0	03	80	20	100	3
6	15ME66X	Open Elective-II	3	0	0	03	80	20	100	3
7	15MEL67	Heat Transfer Lab	1	0	2	03	80	20	100	2
8	15MEL68	Modeling and Analysis Lab(FEA)	1	0	2	03	80	20	100	2
<b>TOTAL</b>			<b>21</b>	<b>6</b>	<b>04</b>		<b>640</b>	<b>160</b>	<b>800</b>	<b>26</b>

Professional Elective-II		Open Elective-II	
15ME651	Computational Fluid Dynamics	15ME661	Project Management
15ME652	Mechanics of Composite Materials	15ME662	Automations and Robotics
15ME653	Additive Manufacturing		
15ME654	Tool Design		
15ME655	Automobile Engineering		

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- 3. OpenElective:** Electives from other technical and/or emerging subject areas.

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**VII SEMESTER**

Sl. No	Subject Code	Title	Teaching Hours /Week			Examination				
			Lecture	Tutorial	Practical	Duration (Hours)	I.A. Marks	Theory/ Practical Marks	Total Marks	
1	15ME71	Energy Engineering	3	2	0	03	20	80	100	4
2	15ME72	Operations Research	4	0	0	03	20	80	100	4
3	15ME73	Control Engineering	3	2	0	03	20	80	100	4
4	15ME74X	Professional Elective-III	3	0	0	03	20	80	100	3
5	15ME75X	Professional Elective-IV	3	0	0	03	20	80	100	3
6	15MEL76	Design Lab	1	0	2	03	20	80	100	2
7	15MEL77	CIM Lab	1	0	2	03	20	80	100	2
8	15MEP78	Project Phase –I + Seminar		-			100	-	100	2
<b>TOTAL</b>			<b>18</b>	<b>04</b>	<b>04</b>		<b>240</b>	<b>560</b>	<b>800</b>	<b>24</b>

Professional Elective-III		Professional Elective-IV	
15ME741	Design of Thermal Equipments	15ME751	Automotive Electronics
15ME742	Tribology	15ME752	Fracture Mechanics
15ME743	Financial Management	15ME753	Total Quality Management
15ME744	Design for manufacture	15ME754	Product Life Cycle Management
15ME745	Smart materials	15ME755	Advanced Vibrations

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- 2. Professional Elective:** Elective relevant to chosen specialization/ branch
- 3. Project Phase –I + Seminar:** Literature, Survey, Problem Identification, objectives and methodology, submission ,of synopsis and seminar.

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**VIII SEMESTER**

Sl. No	Subject Code	Title	Teaching Hours /Week			Examination				Credit
			Lecture	Tutorial	Practical	Duration (Hours)	I.A. Marks	Theory/ Practical Marks	Total Marks	
1	15ME81	Operations Management	3	2	0	3	20	80	100	4
2	15ME82	Fluid Power Systems	4	0	0	3	20	80	100	4
3	15ME83X	Professional Elective-V	3	0	0	3	20	80	100	3
4	15ME84	Internship / Professional Practice	Industry Oriented			3	50	50	100	2
5	15MEP85	Project Work Phase -II	-	6		3	100	100	200	6
6	15MES86	Seminar	-	4		-	100	-	100	1
<b>TOTAL</b>			<b>10</b>	<b>12</b>			<b>310</b>	<b>390</b>	<b>700</b>	<b>20</b>

Professional Elective -V	
15ME831	Cryogenics
15ME832	Experimental Stress analysis
15ME833	Industrial Safety
15ME834	Lean Manufacturing
15ME835	Maintenance Engineering

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- 2. Professional Elective:** Elective relevant to chosen specialization/ branch
- 3. Internship / Professional Practice:** To be carried between the 6<sup>th</sup> and 7<sup>th</sup> semester vacation or 7<sup>th</sup> and 8<sup>th</sup> semester vacation.