

**MECHANICAL ENGINEERING**  
**(School of Mechanical Sciences)**

**AGENDA NOTES**  
**Submitted to**  
**ACADEMIC COUNCIL**

**(09 January 2016)**

**Table ME- 1**

**B.Tech. (Mechanical Engineering) - 2015 Batch onwards**

**COURSE COMPONENTS**  
**[Note: Excluding PEP subjects]**

**Table 1**

Sl. No.	Course Code	General - 2 credits	Credits
		Course	
1	16VE2001	Value Education	2:0:0
<b>Total Credits</b>			<b>2</b>

Sl. No.	Course Code	Basic Sciences - 12 credits	Credits
		Course	
1	14MA2001	Vector Calculus and Complex Analysis	3:1:0
2	14MA2003	Mathematical Transforms	3:1:0
3	14MA2006	Numerical Mathematics and Computing	3:1:0
<b>Total Credits</b>			<b>12</b>

Sl. No.	Course Code	Engineering Sciences & Technical Arts - 6 credits	Credits
		Course	
1	14MS2002	Managerial Skills	3:0:0
2	14ME2001	Engineering Mechanics	3:0:0
<b>Total Credits</b>			<b>6</b>

**Table 2**

Sl. No	Course Code	Program Core - 75 credits & a full / part semester project	Credits
		Name of the Course	
1	14ME2002	Metallurgy Laboratory	0:0:1
2	14ME2003	Material Science and Engineering	3:0:0
3	14ME2004	Manufacturing Processes	3:0:0
4	14ME2005	Machining Processes	3:0:0
5	14ME2006	Metrology and Measurement Systems	3:0:0
6	14ME2007	Fluid Power Control Engineering	3:0:0
7	14ME2008	Foundry, Smithy, Welding and Sheet Metal	0:0:2
8	14ME2009	Metrology Laboratory	0:0:1
9	16ME2008	Machining Practice Machining Laboratory	0:0:2
10	14ME2010	Fluid Power Control and Mechatronics Laboratory	0:0:2
11	15ME2002	CAM Laboratory	0:0:2
12	16ME2009	Thermal Engineering Laboratory*	0:0:2

13	16ME2010	Heat Transfer Laboratory	0:0:2
14	14ME2014	Engineering Thermodynamics	3:0:0
15	14ME2015	Thermal Engineering I	3:0:0
16	14ME2016	Thermal Engineering II	3:0:0
17	14CE2003	Mechanics of Fluids	3:1:0
18	16ME2011	Heat and Mass Transfer	3:0:0
19	16CE2004	Fluid Mechanics and Strength of Materials	0:0:2
20	14CE2002	Mechanics of Solids	3:1:0
21	14ME2025	Computer Aided Design and Manufacturing	3:0:0
22	14ME2026	Mechanics of Machines	3:1:0
23	14ME2027	Dynamics of Machinery	3:1:0
24	14ME2028	Design of Mechanical Transmission Systems	3:0:0
25	14ME2029	Design of Machine Elements	3:1:0
26	14ME2031	Computer Aided Design and Engineering Laboratory	0:0:2
27	14ME2032	Machine Drawing	0:0:2
28	15ME2001	Dynamics Laboratory	0:0:2
		Total Subject Credits	75
29	FSP2999/ PSP2998	Full / Part Semester project	20/12
		<b>Total Credits</b>	<b>95 / 87</b>

**Table 3**

Sl. No	Course Code	Soft Core - [Design Engineering] (min of 21 credits to be earned)	Credits
		Name of the Course	
1	14ME2034	Design of Jigs, Fixtures and Press Tools	3:0:0
2	14CE3006	Finite Element Methods in Engineering	3:0:0
3	14ME2036	Mechanical Vibrations	3:1:0
4	14ME2037	Product Design and Development Strategies	3:0:0
5	14MA3018	Optimization Techniques	3:0:0
6	14ME2039	Composite Materials	3:0:0
7	14ME2040	Design for Manufacture	3:0:0
8	14ME2044	Industrial Design	3:0:0
9	14MA2018	Operations Research II	3:1:0
10	14AE2019	Computational Fluid Dynamics	3:1:0
11	14ME2038	Tribology in Design	3:1:0
		<b>Total Credits</b>	<b>37</b>

Sl. No	Course Code	Soft Core - [Manufacturing Engineering] (min of 21 credits to be earned)	Credits
		Name of the Course	

1	14MA2018	Operations Research II	3:1:0
2	14ME2042	Mechatronics and Control Systems	3:0:0
3	14ME2043	Industrial Engineering	3:1:0
4	14ME2045	Rapid Prototyping and Tooling	3:0:0
5	14ME2046	Metal Cutting Theory and Practice	3:1:0
6	14ME2047	Welding Technology	3:0:0
7	14ME2048	Foundry Technology	3:0:0
8	14ME2039	Composite Materials	3:0:0
9	14MA3018	Optimization Techniques	3:0:0
10	14ME2040	Design for Manufacture	3:0:0
11	14ME2035	Industrial Safety Engineering	3:0:0
<b>Total Credits</b>			<b>36</b>

Sl. No	Course Code	Soft Core - [Thermal Engineering] (min of 21 credits to be earned)	Credits
		Name of the Course	
1	14ME2049	Renewable Energy Sources	3:0:0
2	14ME2050	Advanced Internal Combustion Engines	3:1:0
3	14ME2051	Refrigeration and Air Conditioning	3:1:0
4	14ME2052	Biomass Energy systems	3:0:0
5	14ME2053	Alternative Fuels for I.C Engines	3:0:0
6	14ME2021	Modern Vehicle Technology	3:0:0
7	14AE2019	Computational Fluid Dynamics	3:0:0
8	14ME2018	Power Plant Engineering	3:0:0
9	14MA2018	Operations Research II	3:1:0
10	14ME2058	Turbomachinery	3:0:0
11	14ME2059	Design of Heat Exchangers	3:0:0
<b>Total Credits</b>			<b>36</b>

Sl. No	Course Code	Soft Core - [Automobile Engineering] (min of 21 credits to be earned)	Credits
		Name of the Course	
1	16ME2001	Automotive Chassis	3:0:0
2	16ME2002	Vehicle Dynamics	3:0:0
3	16ME2003	Vehicle Design Data Characteristics	3:0:0
4	16ME2004	Vehicle Maintenance	3:0:0
5	16EE2007	Automotive Electrical and Electronics System	3:0:0
6	16ME2005	Vehicle Body Engineering	3:0:0
7	16ME2006	Automotive Engines	3:0:0
8	16ME2007	Automotive Transmission	3:0:0
9	14ME2053	Alternative Fuels for I.C Engines	3:0:0
10	14ME2034	Design of Jigs, Fixtures and Press Tools	3:0:0

11	14ME2039	Composite Materials	3:0:0
12	14MA2018	Operations Research II	3:1:0
		<b>Total Credits</b>	<b>37</b>

Sl. No.	Course Code	Soft Core - [Mechatronics Engineering] (min of 21 credits to be earned)	Credits
		Name of the Course	
1	14MA2018	Operations Research II	3:1:0
2	14EC2015	Microcontroller and its Applications	3:0:0
3	14EC2029	Embedded System Design	3:0:0
4	14EC2001	Digital Electronics	3:1:0
5	14EI2001	Sensors and Transducers	3:0:0
6	14EI2044	PLC and Automation	3:0:0
7	14ME3030	Industrial Robotics	3:0:0
8	14ME3005	Computer Integrated Manufacturing Systems	3:0:0
9	14ME2042	Mechatronics and Control systems	3:0:0
10	15ME3006	Design of Fluid Power Systems	3:0:0
11	14EC2087	Micro Electro Mechanical Systems	3:0:0
12	16EE2008	Electric Drives for Mechatronics systems	3:0:0
		<b>Total Credits</b>	<b>38</b>