

**MRSPTU B. TECH WITH MINOR DEGREE IN MECH. ENGG. SYLLABUS  
2018 BATCH ONWARDS**

**CORE COURSES**

**Note: Select minimum 2 subjects from any one group as given below.**

**GROUP-I: Design**

Course Code	Course Title	Hrs per week			Max. Marks		Total Marks	Credits	Semester
		L	T	P	Int.	Ext.			
BMECM1-301	Strength of Materials-I	3	1	0	40	60	100	4	3 <sup>rd</sup>
BMECM1-401	Strength of Materials-II	3	1	0	40	60	100	4	4 <sup>th</sup>
BMECM1-601	Design of Machine Element	3	1	0	40	60	100	4	6 <sup>th</sup>

**Group-II: Fluid Dynamics**

Course Code	Course Title	Hrs per week			Max. Marks		Total Marks	Credits	Semester
		L	T	P	Int.	Ext.			
BMECM1-302	Fluid Mechanics	3	1	0	40	60	100	4	3 <sup>rd</sup>
BMECM1-402	Fluid Machines	3	1	0	40	60	100	4	4 <sup>th</sup>
BMECM1-501	Mechanical Measurement & Metrology	3	0	0	40	60	100	3	5 <sup>th</sup>

**Group-III: Materials & Manufacturing**

Course Code	Course Title	Hrs per week			Max. Marks		Total Marks	Credits	Semester
		L	T	P	Int.	Ext.			
BMECM1-403	Materials Engineering	3	0	0	40	60	100	3	4 <sup>th</sup>
BMECM1-404	Machine Drawing using CAD	1	0	4	40	60	100	3	4 <sup>th</sup>
BMECM1-602	Manufacturing Technology & Processes	4	0	0	40	60	100	4	6 <sup>th</sup>

**Group-IV: Thermal**

Course Code	Course Title	Hrs per week			Max. Marks		Total Marks	Credits	Semester
		L	T	P	Int.	Ext.			
BMECM1-303	Thermodynamics	3	1	0	40	60	100	4	3 <sup>rd</sup>
BMECM1-405	Applied Thermodynamics	3	1	0	40	60	100	4	4 <sup>th</sup>
BMECM1-502	Automobile Engineering	3	0	0	40	60	100	3	5 <sup>th</sup>
BMECM1-701	Refrigeration & Air Conditioning	3	1	0	40	60	100	4	7 <sup>th</sup>

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**Group-V:Mechanisms**

Course Code	Course Title	Hrs per week			Max. Marks		Total Marks	Credits	Semester
		L	T	P	Int.	Ext.			
BMECM1-503	Kinematics & Theory of Machines	3	1	0	40	60	100	4	5 <sup>th</sup>
BMECM1-304	Engineering Mechanics	3	1	0	40	60	100	4	3 <sup>rd</sup>

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**DEPARTMENT ELECTIVES**

Course Code	Course Title	Hrs per week			Max. Marks		Total Marks	Credits	Semester
		Lecture	Tutorial	Practical	Int.	Ext.			
BMECM1-406	Industrial Automation & Robotics	3	0	0	40	60	100	3	4 <sup>th</sup>
BMECM1-603	Internal Combustion Engines	3	0	0	40	60	100	3	6 <sup>th</sup>
BMECM1-604	Gas Dynamics and Jet Propulsion	3	0	0	40	60	100	3	6 <sup>th</sup>
BMECM1-605	Power Plant Engineering	3	0	0	40	60	100	3	6 <sup>th</sup>
BMECM1-606	Mechatronic Systems	3	0	0	40	60	100	3	6 <sup>th</sup>
BMECM1-607	Microprocessors in Automation	3	0	0	40	60	100	3	6 <sup>th</sup>
BMECM1-608	Automation in Manufacturing	3	0	0	40	60	100	3	6 <sup>th</sup>
BMECM1-702	Computer Aided Design	3	0	0	40	60	100	3	7 <sup>th</sup>
BMECM1-703	Composite Materials	3	0	0	40	60	100	3	7 <sup>th</sup>
BMECM1-704	Non-Destructive Testing	3	0	0	40	60	100	3	7 <sup>th</sup>
BMECM1-705	Work Study and Ergonomics	3	0	0	40	60	100	3	7 <sup>th</sup>
BMECM1-706	Additive Manufacturing	3	0	0	40	60	100	3	7 <sup>th</sup>
BMECM1-801	Sustainable manufacturing	3	0	0	40	60	100	3	8 <sup>th</sup>
BMECM1-802	Industrial Safety and Environment	3	0	0	40	60	100	3	8 <sup>th</sup>
BMECM1-803	Energy Conservation and Mgt.	3	0	0	40	60	100	3	8 <sup>th</sup>
BMECM1-804	Operation Research	3	0	0	40	60	100	3	8 <sup>th</sup>

**Note:**

- The students may opt one/two subjects from the MOOCs/ SWAYAM as per University Notification & as per the AICTE Model Curriculum as modified from time to time.