

Scheme of Teaching and Examination  
B. Tech in Mechanical Engineering (01UG040)

## I- Semester

S. No.	Subject Code	Board of Study	SUBJECT	Periods per week			Scheme of Examination and Marks				Credit L+(T+P)/2
				L	T	P	PRE		ESE	Total Marks	
							Mid Sem	TA			
1	SOE-B-FY101	Maths	Mathematics- I	4	1	0	30	20	50	100	5
2	SOE-B-FY102	Chemistry	Engineering Chemistry	3	0	0	30	20	50	100	3
3	SOE-B-FY103	Physics	Physics- I	3	0	0	30	20	50	100	3
4	SOE-B-FY104	CSE	Basic Computing	3	0	2	30	20	50	100	4
5	SOE-B-FY105	Mechanical	Engineering Graphics	1	0	4	30	20	50	100	3
6	SOE-B-FY106	EE	Basic Electrical & Electronics Engineering	3	0	0	30	20	50	100	3
7	SOE-B-FY107	EE	Basic Electrical & Electronics Engineering Lab	0	0	2	-	30	20	50	1
8	SOE-B-FY108	Chemistry	Engineering Chemistry Lab	0	0	2	-	30	20	50	1
9	SOE-B-FY109	Humanities	Spoken English Communication	0	0	2	-	30	20	50	1
			<b>TOTAL</b>	<b>17</b>	<b>01</b>	<b>12</b>	<b>180</b>	<b>210</b>	<b>360</b>	<b>750</b>	<b>24</b>

L: Lecture    T: Tutorial    P: Practical    ESE: End Semester Examination    T.A: Teacher's Assessment.    PRE- Progressive Review Examination

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Department of Mechanical Engineering



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## II- Semester

S. No.	Subject Code	Board of Study	SUBJECT	Periods per week			Scheme of Examination and Marks				Credit L+(T+P)/2
				L	T	P	PRE		ESE	Total Marks	
							Mid Sem	TA			
1	SOE-B-FY201	Maths	Mathematics- II	4	1	0	30	20	50	100	5
2	SOE-B-FY202	Physics	Physics- II	3	0	0	15	10	25	50	2
3	SOE-B-FY204	Civil	Basics of Civil Engineering	3	0	0	30	20	50	100	3
4	SOE-B-FY205	Mechanical	Engineering Mechanics	3	0	2	30	20	50	100	4
5	SOE-B-FY207	Chemistry	Environmental Studies	1	0	2	15	10	25	50	2
6	SOE-B-FY208	CSE	Introduction to Artificial Intelligence	2	0	2	30	20	50	100	3
7	SOE-B-FY203	Physics	Physics- II Lab	0	0	2	-	30	20	50	1
8	SOE-B-FY206	Mechanical	Workshop Practice	0	0	2	-	30	20	50	1
9	SOE-B-FY209	Humanities	Written English Communication	0	0	2	-	30	20	50	1
			<b>TOTAL</b>	<b>16</b>	<b>01</b>	<b>12</b>	<b>150</b>	<b>190</b>	<b>310</b>	<b>650</b>	<b>22</b>

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## III- Semester

S. No.	Subject Code	SUBJECT	Periods per week			Scheme of Examination and Marks				Credit
			L	T	P	PRE		ESE	Total Marks	
						Mid Sem	TA			
1	SOE-B-MA304	Advanced Engineering Mathematics	3	1	0	30	20	50	100	4
2	SOE-B-ME301	Thermo Fluids- I	4	0	0	30	20	50	100	4
3	SOE-B-ME302	Computer Aided Machine Drawing	3	0	0	30	20	50	100	3
4	SOE-B-ME303	Mechanics of Materials	4	0	0	30	20	50	100	4
5	SOE-B-ME304	Engineering Metallurgy	3	0	0	30	20	50	100	3
6	SOE-B-ME305	Plant Maintenance & Safety	2	0	0	15	10	25	50	2
7	SOE-B-CE305	Disaster Management	1	0	0	15	10	25	50	1
8	SOE-B-ME306	Thermo Fluids - I Lab	0	0	2	0	30	20	50	1
9	SOE-B-ME307	Computer Aided Machine Drawing Lab	0	0	4	0	30	20	50	2
10	SOE-B-ME308	Mechanics of Materials Lab	0	0	2	0	30	20	50	1
		<b>TOTAL</b>	<b>20</b>	<b>1</b>	<b>8</b>	<b>180</b>	<b>210</b>	<b>360</b>	<b>750</b>	<b>25</b>

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## IV-Semester

S. No.	Subject Code	SUBJECT	Periods per week			Scheme of Examination and Marks				Credit
			L	T	P	PRE		ESE	Total Marks	
						Mid Sem	TA			
1	SOE-B-ME401	Machine Design	4	0	0	30	20	50	100	4
2	SOE-B-ME402	Thermo Fluids – II	4	0	0	30	20	50	100	4
3	SOE-B-ME403	Kinematics of Machines	4	0	0	30	20	50	100	4
4	SOE-B-ME404	Manufacturing Technology	3	0	0	30	20	50	100	3
5	SOE-B-ME405	Metrology and Mechanical Measurement (MMM)	4	0	0	30	20	50	100	4
6	SOE-B-CSE-411	Introduction to Data Science	2	0	0	15	10	25	50	2
7	SOE-B-ME406	Thermo Fluids – II Lab	0	0	2	0	30	20	50	1
8	SOE-B-ME407	Manufacturing Technology Lab	0	0	2	0	30	20	50	1
9	SOE-B-ME408	Metrology and Mechanical Measurement Lab	0	0	2	0	30	20	50	1
10	SOE-B-ME409	Professional Development	0	0	2	0	30	20	50	1
		<b>TOTAL</b>	<b>21</b>	<b>0</b>	<b>8</b>	<b>165</b>	<b>230</b>	<b>355</b>	<b>750</b>	<b>25</b>

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## SEMESTER V

S. N	Subject Code	Subject	Periods per week			Examination Scheme					Credit
			L	T	P	PRE			ESE	TOTAL	
						TA	MSE	TOTAL			
1	SOE-B-ME501	Thermal Engineering	3	0	0	20	30	50	50	100	3
2	SOE-B-ME502	Internal Combustion Engine (I.C)	3	0	0	20	30	50	50	100	3
3	SOE-B-ME503	Dynamics of Machine (DOM)	3	0	0	20	30	50	50	100	3
4	SOE-B-ME504	Operation Research Technique	3	0	0	20	30	50	50	100	3
5	SOE-B-ME505	Mechatronics	3	0	0	20	30	50	50	100	3
6	SOE-B-ME506	Thermal Engineering Lab	0	0	4	30	0	30	20	50	2
7	SOE-B-ME507	I.C. Engine Lab	0	0	4	30	0	30	20	50	2
8	SOE-B-ME508	KOM & DOM Lab	0	0	4	30	0	30	20	50	2
9	SOE-B-ME509	Seminars on Industrial Training	0	0	1	25	0	25	25	50	1
10	SOE-B-ME510	Electric Vehicle Design and Development	1	0	2	15	15	30	20	50	2
<b>TOTAL</b>			<b>16</b>	<b>0</b>	<b>15</b>	230	165	395	355	750	<b>24</b>

L: Lecture T: Tutorial P: Practical ESE: End Semester Examination T.A: Teacher's Assessment. PRE- Progressive Review Examination

### SEMESTER VI

SN	Subject Code	Subject	Periods per week			Examination Scheme					Credit
			L	T	P	PRE			ESE	TOTAL	
						TA	MSE	TOTAL			
1	SOE-B-ME601	Heat & Mass Transfer	3	0	0	20	30	50	50	100	3
2	SOE-B-ME602	Machine Tool & Machining	3	0	0	20	30	50	50	100	3
3	SOE-B-ME603	Design of Machine Element	3	0	0	20	30	50	50	100	3
4	SOE-B-ME604	Energy Conversion System	3	0	0	20	30	50	50	100	3
5	SOE-B-ME605	Professional Elective- I (Annexure-I)	3	0	0	20	30	50	50	100	3
6	SOE-B-ME606	Heat and Mass Transfer Lab	0	0	4	30	0	30	20	50	2
7	SOE-B-ME607	Machine Tool and Machining Lab	0	0	4	30	0	30	20	50	2
8	SOE-B-ME608	MATLAB Programming	0	0	4	30	0	30	20	50	2
9	SOE-B-ME609	Professional Communication	0	0	1	25	0	25	25	50	1
10	SOE-B-ME610	Principles of Management	2	0	0	15	15	30	20	50	2
<b>TOTAL</b>			<b>17</b>	<b>0</b>	<b>13</b>	<b>230</b>	<b>165</b>	<b>395</b>	<b>355</b>	<b>750</b>	<b>24</b>

TA- Teacher Assessment, MSE-Mid Semester Examination; ESE-End Semester Examination, PRE- Progressive Review Examination.

#### Annexure-I

Sr. No	Subject Code	Courses
1.	SOE-B-ME605 (1)	Gas Dynamics and Jet Propulsion
2.	SOE-B-ME605 (2)	Computational Fluid Dynamics
3.	SOE-B-ME605 (3)	Welding Technology
4.	SOE-B-ME605 (4)	Material Handling System and Equipment
5.	SOE-B-ME605 (5)	Additive Manufacturing
6.	SOE-B-ME605 (6)	Power Plant Engineering

## VII- Semester

S. No.	Subject Code	Board of Study	SUBJECT	Periods per week			Scheme of Examination and Marks				Credit L+(T+P)/2
				L	T	P	PRE		ESE	Total Marks	
							Mid Sem	TA			
1	SOE-B-ME708	Mechanical	Research Internship /Industry Internship	0	0	44	0	250	250	500	22
			<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>44</b>	<b>0</b>	<b>250</b>	<b>250</b>	<b>500</b>	<b>22</b>
<b>OR</b>											
1	SOE-B-ME701	Mechanical	Refrigeration & Air Conditioning System	3	0	0	30	20	50	100	3
2	SOE-B-ME702	Mechanical	Professional Elective- II (Annexure-II)	3	0	0	30	20	50	100	3
3	SOE-B-ME703	Mechanical	Robotics & Automation	2	0	0	30	20	50	100	2
4	SOE-B-ME704	Mechanical	Computer Aided Design and Manufacturing	2	0	0	30	20	50	100	2
5	SOE-B-ME705	Mechanical	Refrigeration and Air Conditioning Lab	0	0	4	0	30	20	50	2
6	SOE-B-ME706	Mechanical	Robotics and Automation Lab	0	0	2	0	15	10	25	1
7	SOE-B-ME707	Mechanical	CAD/CAM Lab	0	0	2	0	15	10	25	1
			<b>TOTAL</b>	<b>10</b>	<b>0</b>	<b>08</b>	<b>120</b>	<b>140</b>	<b>240</b>	<b>500</b>	<b>14</b>

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**Option A:** The Students who opted for an Internship in the 7th Semester will have to choose Subjects in the 8th semester.

**Option B:** The Students who opted for Subjects in the 7th Semester will have to opt internship in 8th semester.

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## Professional Elective- II (**Annexure-II**)

<b>S. No.</b>	<b>Subject Code</b>	<b>Courses</b>
1.	SOE-B-ME702 (1)	Industrial Engg and Production Management
2.	SOE-B-ME702 (2)	Finite Element Method
3.	SOE-B-ME702 (3)	Production Planning and Control
4.	SOE-B-ME702 (4)	Automobile Engineering
5.	SOE-B-ME702 (5)	Solar Energy Technology
6.	SOE-B-ME702 (6)	Introduction to Stainless Steel
7.	SOE-B-ME702 (7)	Process Planning and Cost Estimation
8.	SOE-B-ME702 (8)	Total Quality Management
9	SOE-B-ME702 (9)	Innovation, Entrepreneurship and Leadership
10.	SOE-B-ME702 (10)	TQM and Reliability Engineering



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## VIII- Semester

S. No.	Subject Code	Board of Study	SUBJECT	Periods per week			Scheme of Examination and Marks				Credit L+(T+P)/2
				L	T	P	PRE		ESE	Total Marks	
							Mid Sem	TA			
1	SOE-B-ME701	Mechanical	Refrigeration & Air Conditioning System	3	0	0	30	20	50	100	3
2	SOE-B-ME702	Mechanical	Professional Elective-II (Annexure-II)	3	0	0	30	20	50	100	3
3	SOE-B-ME703	Mechanical	Robotics & Automation	3	0	0	30	20	50	100	2
4	SOE-B-ME704	Mechanical	Computer Aided Design and Manufacturing	3	0	0	30	20	50	100	2
5	SOE-B-ME705	Mechanical	Refrigeration and Air Conditioning Lab	0	0	4	0	30	20	50	2
6	SOE-B-ME706	Mechanical	Robotics and Automation Lab	0	0	2	0	15	10	25	1
7	SOE-B-ME707	Mechanical	CAD/CAM Lab	0	0	2	0	15	10	25	1
8	SOE-B-ME801	Mechanical	Major Project	0	0	20	0	150	100	250	10
			<b>TOTAL</b>	<b>12</b>	<b>0</b>	<b>28</b>	<b>120</b>	<b>290</b>	<b>340</b>	<b>750</b>	<b>24</b>
<b>OR</b>											
1	SOE-B-ME708	Mechanical	Research Internship / Industry Internship	0	0	44	0	250	250	500	22
2	SOE-B-ME801	Mechanical	Major Project	0	0	20	0	150	100	250	10
			<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>64</b>	<b>0</b>	<b>400</b>	<b>350</b>	<b>750</b>	<b>32</b>

Option Chosen	Credit in VII-Sem	Credit in VIII-Sem	Total Credit
Option A	22	24	<b>46</b>
Option B	14	32	<b>46</b>