

## SECOND YEAR MECHANICAL ENGINEERING COURSE

### SCHEME OF INSTRUCTION AND EXAMINATION REVISED COURSE 2019-2020

#### SEMESTER -III

Course Code	Nomenclature of the Course	Scheme of Instruction Hrs/Week			Scheme of Examination						
		L	T	P	Duration (Hrs)	Marks					Credits
						Th	IA	TW**	P/O	Total	
ME310	Mathematics –III	3	1	--	3	100	25	25	--	150	4
ME320	Mechanics of Solids	4	--	--	3	100	25	--	25	150	4
ME330	Engineering Thermodynamics	4	--	--	3	100	25	--	--	125	4
ME340	Engineering Materials Science and Metallurgy	3	--	--	3	100	25	--	--	125	3
ME350	Engineering Metrology and Machine Drawing	4	--	--	3	100	25	--	--	125	4
ME360	Engineering Materials Science and Metallurgy Laboratory	--	--	2	--	--	--	25	50	75	1
ME370	Engineering Metrology and Machine Drawing Laboratory	--	--	2	--	--	--	25	50	75	1
HM001	Technical Communication	2	--	--	--	--	--	75	--	75	2
AC390	Mathematics I & II (*Bridge Course)	2	--	--	--	--	--	--	--	--	0
<b>TOTAL</b>		<b>22</b>	<b>1</b>	<b>4</b>	--	<b>500</b>	<b>125</b>	<b>150</b>	<b>125</b>	<b>900</b>	<b>23</b>

\*(This course is compulsory to direct second year/lateral entry students. It is introduced to reduce the knowledge gap in the students)

\*\*Term Work marks are to be awarded through continuous evaluation

#### LEGEND

Abbreviation	Description
L	Lecture
T	Tutorial
P	Practical
O	Oral
Th	Theory
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## SECOND YEAR MECHANICAL ENGINEERING COURSE

### SCHEME OF INSTRUCTION AND EXAMINATION REVISED COURSE 2019-2020

#### SEMESTER -IV

Course Code	Nomenclature of the Course	Scheme of Instruction Hrs/Week			Scheme of Examination						
		L	T	P	Duration (Hrs)	Marks					Credits
						Th	IA	TW*	P/O	Total	
ME410	Energy Conversion	4	1	--	3	100	25	25	--	150	5
ME420	Machine Design	4	1	--	3	100	25	25	--	150	5
ME430	Fluid Mechanics	3	1	--	3	100	25	25	--	150	4
ME440	Analysis and Synthesis of Mechanisms	4	--	2	3	100	25	25	--	150	5
ME450	Thermal Laboratory-I	--	--	2	--	--	--	50	50	100	1
ME460	Fluid Mechanics Laboratory	--	--	2	--	--	--	50	50	100	1
HM003	Economics for Engineers	3	--	--	3	100	25	--	25	150	3
	<u>TOTAL</u>	<u>18</u>	<u>3</u>	<u>6</u>	--	500	125	200	100	950	24

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**THIRD YEAR MECHANICAL ENGINEERING COURSE**  
**SCHEME OF INSTRUCTION AND EXAMINATION REVISED COURSE 2019-2020**  
**SEMESTER – V**

Course Code	Nomenclature of the Course	Scheme of Instruction Hrs/Week			Scheme of Examination						
		L	T	P	Duration (Hrs)	Marks					Credits
						Th	IA	TW*	P/O	Total	
ME 510	Manufacturing Technology-I	4	--	--	3	100	25	--	--	125	4
ME 520	Dynamics of Machinery	4	--	--	3	100	25	--	--	125	4
ME531	Advanced Thermodynamics	3	--	--	3	100	25	--	--	125	3
ME532	Mechanical Vibrations										
ME533	Mechatronics										
ME534	Management Information Systems										
ME535	Industrial Safety and Occupational Health										
ME 541	Gas Dynamics and Turbo Machinery	3	--	--	3	100	25	--	--	125	3
ME 542	Engineering Tribology										
ME 543	Advanced Machine Design										
ME 544	Micro Electro Mechanical Systems										
ME 545	Instrumentation & Control										
ME 570	Manufacturing Laboratory	--	--	2	--	--	--	25	50	75	1
ME 580	Dynamics of Machinery Laboratory	--	--	2	--	--	--	25	50	75	1
***	Open Elective	3	--	--	3	100	25	--	--	125	3
HM002	Technical English & Report Writing	3	--	--	3	100	25	--	--	125	3
	<b>TOTAL</b>	<b>20</b>	<b>0</b>	<b>4</b>	<b>--</b>	<b>600</b>	<b>150</b>	<b>50</b>	<b>100</b>	<b>900</b>	<b>22</b>

Students to select **ANY ONE** subject from ME531, ME532, ME533, ME534, ME535 as **Professional Elective - I** and **ANY ONE** subject from ME541, ME542, ME543, ME544, ME545 as **Professional Elective – II**

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## THIRD YEAR MECHANICAL ENGINEERING COURSE

### SCHEME OF INSTRUCTION AND EXAMINATION REVISED COURSE 2019-2020

#### SEMESTER -VI

Course Code	Nomenclature of the Course	Scheme of Instruction Hrs/Week			Scheme of Examination						
		L	T	P	Duration (Hrs)	Marks					Credits
						Th	IA	TW*	P/O	Total	
ME610	Heat and Mass Transfer	4	--	--	3	100	25	--	--	125	4
ME620	Manufacturing Technology-II	4	--	--	3	100	25	--	--	125	4
ME631	Power Plant Engineering	3	--	--	3	100	25	--	--	125	3
ME632	Advanced Mechanics of Solids										
ME633	Fiber Reinforced Composites										
ME634	Six Sigma Management										
ME635	Applied Operations Research										
ME641	Alternative Energy Sources	3	--	--	3	100	25	--	--	125	3
ME642	Additive Manufacturing										
ME643	Fluid Power Control										
ME644	Supply Chain Management										
ME645	System Modeling & Simulation										
ME650	Thermal Laboratory-II	--	--	2	--	--	--	25	50	75	1
ME660	Manufacturing & Automation Laboratory	--	--	2	--	--	--	25	50	75	1
***	Open Elective	3	--	--	3	100	25	--	--	125	3
HM010	Engineering Statistics	3	--	--	3	100	25	--	--	125	3
	<b>TOTAL</b>	<u>20</u>	<u>0</u>	<u>4</u>	--	600	150	50	100	900	22

Students to select **ANY ONE** subject from ME631, ME632, ME633, ME634, ME635 as **Professional Elective - III** and **ANY ONE** subject from ME641, ME642, ME643, ME644, ME645 as **Professional Elective - IV**

\*\*\* Student will have to enter the course code that he/she takes as part of the open elective.

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Between 6th & 7th semester - 8 weeks internship/training/research assistantship.

**FOURTH YEAR MECHANICAL ENGINEERING COURSE**  
**SCHEME OF INSTRUCTION AND EXAMINATION REVISED COURSE 2019-2020**

**SEMESTER -VII**

Course Code	Nomenclature of the Course	Scheme of Instruction Hrs/Week			Scheme of Examination						
		L	T	P	Duration (Hrs)	Marks					Credits
						Th	IA	TW*	O	Total	
ME710	CAD/CAM	4	--	--	3	100	25	--	--	125	4
ME721	Refrigeration and Air-Conditioning	3	--	--	3	100	25	--	--	125	3
ME722	Finite Element Method										
ME723	Quality & Reliability										
ME724	Advanced Optimization										
ME725	Tool Engineering										
ME730	CAD/CAM Laboratory	--	--	2	--	--	--	25	50	75	1
***	Open Elective	3	--	--	3	100	25	--	--	125	3
ME740	Internship	--	--	6	--	--	--	50	50	100	3
ME750	Project Work- PHASE I	--	--	6	--	--	--	50	75	125	3
	<b><u>TOTAL</u></b>	<b><u>10</u></b>	<b><u>0</u></b>	<b><u>14</u></b>	--	300	75	125	175	675	17

Students to select **ANY ONE** subject from ME721, ME722, ME723, ME724, and ME725 as **Professional Elective – V**

\*Term Work marks are to be awarded through continuous evaluation

\*\*\* Student will have to enter the course code that he/she takes as part of the open elective.

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**FOURTH YEAR MECHANICAL ENGINEERING COURSE**  
**SCHEME OF INSTRUCTION AND EXAMINATION REVISED COURSE 2019-2020**

**SEMESTER - VIII**

Course Code	Nomenclature of the Course	Scheme of Instruction Hrs/Week			Scheme of Examination						
		L	T	P	Duration (Hrs)	Marks					Credits
						Th	IA	TW*	O	Total	
ME810	Industrial Engineering and Operations Management	3	--	--	3	100	25	--	--	125	3
ME821	Energy Conservation and Management	3	--	--	3	100	25	--	--	125	3
ME822	Automobile Engineering										
ME823	Industrial Automation and Robotics										
ME824	Maintenance Engineering and Management										
ME825	Computational Fluid Dynamics										
ME830	(nptel/mooc/swayam) student can take this on-line course between 6 to 8 sem. grades will be awarded in 8th sem.	3	--	--	--	--	--	50	50	100	3
ME840	Project Work- phase II	--	--	18	--	--	--	200	200	400	9
<b><u>TOTAL</u></b>		<b><u>9</u></b>	<b><u>0</u></b>	<b><u>18</u></b>	<b><u>--</u></b>	<b><u>200</u></b>	<b><u>50</u></b>	<b><u>250</u></b>	<b><u>250</u></b>	<b><u>750</u></b>	<b><u>18</u></b>

# Students to select **ANY ONE** subject from ME821, ME822, ME823, ME824, and ME825 as **Professional Elective – VI**

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