

Four Year Degree Course in Bachelor of Engineering Branch: **MECHANICAL ENGINEERING**
Semester Pattern (Choice Based Credit Grade System)

SEMESTER : THIRD

Sr. No.	Subject Code	Subject	TEACHING SCHEME					EXAMINATION SCHEME									
			HOURS / WEEK			Total HOURS/WEEK	CREDITS	THEORY					PRACTICAL				
			Lecture	Tutorial	P/D			Duration Of Paper (Hr.)	Max. Marks Theory Paper	Internal Marks	Total	Min. Passing Marks	Max. Marks		Total	Min. Passing Marks	
		Int.	Ext.														
THEORY																	
01	3ME01	Mathematics-III	3	1	--	4	4	3	80	20	100	40	--	--	--	--	
02	3ME02	Manufacturing Processes	3	--	--	3	3	3	80	20	100	40	--	--	--	--	
03	3ME03	Mechanics of Materials	3	--	--	3	3	3	80	20	100	40	--	--	--	--	
04	3ME04	Engineering Thermodynamics	3	--	--	3	3	3	80	20	100	40	--	--	--	--	
05	3ME05	Fluid Mechanics	3	--	--	3	3	3	80	20	100	40	--	--	--	--	
06	4ES06	**Environmental Studies	2	--	--	2	--	--	--	--	--	--	-	-	-	-	
PRACTICALS / DRAWING / DESIGN																	
07	3ME07	Manufacturing Processes- lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25	
08	3ME08	Mechanics of Materials- lab .	--	--	2	2	1	--	--	--	--	--	25	25	50	25	
09	3ME09	Fluid Mechanics- lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25	
10	3ME10	Machine Drawing- lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25	
Total			17	1	8	26	20	--	--	--	500	--	--	--	200	--	
Grand Total															700		

Note: **The Examination of the Subject Environmental Studies shall be conducted in IV Semester as per Direction No. 20/2021.

SEMESTER : FOURTH

Sr. No.	Subject Code	Subject	TEACHING SCHEME					EXAMINATION SCHEME										
			HOURS / WEEK			Total HOURS/WEEK	CREDITS	THEORY					PRACTICAL					
			Lecture	Tutorial	P/D			Duration Of Paper (Hr.)	Max. Marks Theory Paper	Internal Marks	Total	Min. Passing Marks	Max. Marks		Total	Min. Passing Marks		
		Int.		Ext.														
THEORY																		
01	4ME01	Material Science	3	--	--	3	3	3	80	20	100	40	--	--	--	--		
02	4ME02	Energy Conversion - I	3	1	--	4	4	3	80	20	100	40	--	--	--	--		
03	4ME03	Manufacturing Technology	3	--	--	3	3	3	80	20	100	40	--	--	--	--		
04	4ME04	Basic Electrical Drives & Control	3	--	--	3	3	3	80	20	100	40	--	--	--	--		
05	4ME05	Hydraulic & Pneumatic Systems	3	--	--	3	3	3	80	20	100	40	--	--	--	--		
06	4ES06	**Environmental Studies	2	--	--	2	2	3	80	20	100	40	-	-	-	-		
PRACTICALS / DRAWING / DESIGN																		
07	4ME07	Material Science-lab	--	--	2	2	1	--	--	--	--	--	25	25	50	25		
08	4ME08	Manufacturing Technology-lab	--	--	2	2	1	--	--	--	--	--	25	25	50	25		
09	4ME09	Basic Electrical Drives & Control -lab	--	--	2	2	1	--	--	--	--	--	25	25	50	25		
10	4ME10	Hydraulic & Pneumatic Systems-lab	--	--	2	2	1	--	--	--	--	--	25	25	50	25		
Total			17	1	8	26	22	--	--	--	600	--	--	--	200	--		
															Total		800	

Note: **The Examination of Mandatory Subject Environmental Science shall be conducted in IV Semester as per Direction No. 20/2021.

SEMESTER : FIFTH																	
Sr. No.	Subject Code	Subject	TEACHING SCHEME					EXAMINATION SCHEME									
			HOURS / WEEK			Total HOURS/WEEK	CREDITS	THEORY					PRACTICAL				
			Lecture	Tutorial	P/D			Duration Of Paper (Hr.)	Max. Marks Theory Paper	Internal Marks	Total	Min. Passing Marks	Max. Marks		Total	Min. Passing Marks	
Int.	Ext.																
THEORY																	
01	5ME01	Heat Transfer	3	--	--	3	3	3	80	20	100	40	--	--	--	--	
02	5ME02	Metrology & Quality Control	3	--	--	3	3	3	80	20	100	40	--	--	--	--	
03	5ME03	Kinematics of Machines	3	1	--	4	4	3	80	20	100	40	--	--	--	--	
04	5ME04	Measurement Systems	3	--	--	3	3	3	80	20	100	40	--	--	--	--	
05	5ME05	Open Elective 6 I (OE-I)	3	--	--	3	3	3	80	20	100	40	--	--	--	--	
PRACTICALS / DRAWING / DESIGN																	
06	5ME06	Heat Transfer- lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25	
07	5ME07	Metrology & Quality Control- lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25	
08	5ME08	Kinematics of Machines- lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25	
09	5ME09	Measurement Systems lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25	
Total			15	1	8	24	20	--	--	--	500	--	--	--	200	--	
Grand Total															700		

Open Elective – I (For other Disciplines) : (i) Production Management (ii) Manufacturing Techniques

An Orientation Program of 15 Hours duration / MOOCs on Advanced Courses line Machine learning, 3-D Printing, Virtual Reality, Supply Chain Management, Numerical Computation for Mechanical Engineers, Bio-mechanics, Fundamentals of nano-Engineering, Micro-Electro Mechanical Systems, Nano-to-Macro Transport Processes, Fundamentals of Photo Voltaics, Machine Tools etc. be offered during V semester.

Open Elective-I to be opted from the University's faculty of Engineering & Technology offered inter-disciplinary courses or MOOCs courses pertaining to the Engineering Profession.

SEMESTER : SIXTH

Sr. No.	Subject Code	Subject	TEACHING SCHEME					EXAMINATION SCHEME									
			HOURS / WEEK			Total HOURS/WEEK	CREDITS	THEORY					PRACTICAL				
			Lecture	Tutorial	P/D			Duration Of Paper (Hr.)	Max. Marks Theory Paper	Internal Marks	Total	Min. Passing Marks	Max. Marks		Total	Min. Passing Marks	
													Int.	Ext.			
THEORY																	
01	6ME01	Design of Machine Elements	3	--	--	3	3	3	80	20	100	40	--	--	--	--	
02	6ME02	Dynamics of Machines	3	1	--	4	4	3	80	20	100	40	--	--	--	--	
03	6ME03	Control System Engineering	3	--	--	3	3	3	80	20	100	40	--	--	--	--	
04	6ME04	Prof. Elective - I	3	--	--	3	3	3	80	20	100	40	--	--	--	--	
05	6ME05	Open Elective - II	3	--	--	3	3	3	80	20	100	40	--	--	--	--	
PRACTICALS / DRAWING / DESIGN																	
06	6ME06	Design of Machine Elements- lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25	
07	6ME07	Dynamics of Machines- lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25	
08	6ME08	Prof. Elective - I - lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25	
09	6ME09	Research Skills - lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25	
Total			15	1	8	24	20	--	--	--	500	--	--	--	200	--	
Grand Total															700		

An Orientation Program of 15 Hours duration / MOOCs on Entrepreneurship Development to be offered during VI Semester.

6ME04: Prof. Elect. (I) : (i) Tool Engineering (ii) Non- Conventional Energy Sources (iii) Computer Aided Design & Simulation

6ME05: Open Elect. (II) [For other Disciplines] : (i) Non- Conventional Energy Sources (ii) Automobile Engineering

Open Elective-II to be opted from the University's faculty of Engineering & Technology offered inter-disciplinary courses or MOOCs courses pertaining to the Engineering Profession.

SEMESTER : SEVENTH

Sr. No.	Subject Code	Subject	TEACHING SCHEME					EXAMINATION SCHEME								
			HOURS / WEEK			Total HOURS/WEEK	CREDITS	THEORY					PRACTICAL			
			Lecture	Tutorial	P/D			Duration Of Paper (Hr.)	Max. Marks Theory Paper	Internal Marks	Total	Min. Passing Marks	Max. Marks		Total	Min. Passing Marks
										Int.	Ext.					
THEORY																
01	7ME01	Mechatronics	3	--	--	3	3	3	80	20	100	40	--	--	--	--
02	7ME02	Productivity Techniques	3	--	--	3	3	3	80	20	100	40	--	--	--	--
03	7ME03	Industrial Management & Costing	3	--	--	3	3	3	80	20	100	40	--	--	--	--
04	7ME04	Energy Conversion - II	3	--	--	3	3	3	80	20	100	40	--	--	--	--
05	7ME05	Professional Elective- II	3	--	--	3	3	3	80	20	100	40	--	--	--	--
PRACTICALS / DRAWING / DESIGN																
06	7ME06	Mechatronics- lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25
07	7ME07	Energy Conversion ó II- lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25
08	7ME08	Professional Elective- II ó lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25
09	7ME09	Technical Seminar & Project	--	--	8	8	4	--	--	--	--	--	50	--	50	25
Total			15	0	14	29	22	--	--	--	500	--	--	--	200	--
Grand Total															700	
7ME05: Prof. Elect.-II : (i) Computer Integrated Manufacturing (ii) Robotics (iii) Artificial Intelligence																

SEMESTER : EIGHT																	
Sr. No.	Subject Code	Subject	TEACHING SCHEME					EXAMINATION SCHEME									
			HOURS / WEEK			Total HOURS/WEEK	CREDITS	THEORY					PRACTICAL				
			Lecture	Tutorial	P/D			Duration Of Paper (Hr.)	Max. Marks Theory Paper	Internal Marks	Total	Min. Passing Marks	Max. Marks		Total	Min. Passing Marks	
		Int.		Ext.													
THEORY																	
01	8ME01	Operation Research Techniques	3	--		3	3	3	80	20	100	40	--	--	--	--	
02	8ME02	I.C. Engines	3	--		3	3	3	80	20	100	40	--	--	--	--	
03	8ME03	Professional Elective-III	3	--		3	3	3	80	20	100	40	--	--	--	--	
04	8ME04	Professional Elective- IV	3	--		3	3	3	80	20	100	40	--	--	--	--	
PRACTICALS / DRAWING / DESIGN																	
05	8ME05	I.C. Engines- lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25	
06	8ME06	Prof. Elective-IV ólab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25	
07	8ME07	Project	--	--	12	12	6						75	75	150	75	
Total			12	--	16	28	20	--	--	--	400	--	--	--	250	--	
Grand Total															650		
8ME03 Prof. Elect. –III : (i) Automobile Engineering (ii) Production Planning & Control (iii) Product Design																	
8ME04 : Prof. Elect. IV: (i) Design of Transmission Systems (ii) Refrigeration & Air Conditioning (iii) Finite Element Analysis																	