

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					THEORY					PRACTICAL				
								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.

SEMESTER : FOURTH

Sr. No.	Subject Code	Subject	TEACHING SCHEME					EXAMINATION SCHEME									
			HOURS / WEEK			EK TotalHOURS/WE	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 Machines	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 Machines-lab	--	--	2	2	1	--	--	--	--	--	25	25	50	25	
Total			17	1	8	26	22	--	--	--	500	--	--	--	200	--	
Total															700		

Note: **The Examination of Mandatory Subject Environmental Science shall be conducted in IV Semester.

SEMESTER : FIFTH

Sr. No.	Subject Code	Subject	TEACHING SCHEME					EXAMINATION SCHEME								
			HOURS / WEEK			L	T	THEORY					PRACTICAL			
								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 – 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) Industrial Robotics & Applications (ii) Modern 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			Lecture	Tutorial	P/D	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	Computer Aided Design & Simulation - 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) Project Management (iv) Lean Manufacturing

6ME05: Open Elect. (II) [For other Disciplines] : (i) Renewable Energy Technologies (ii) Automobile Engineering & Electric Vehicles

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					THEORY					PRACTICAL				
								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 – II- lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25	
08	7ME08	Professional Elective- II – 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) Automobile Engineering (iii) Design of Transmission Systems (iv) Computational Fluid Dynamics

SEMESTER : EIGHT

Sr. No.	Subject Code	Subject	TEACHING SCHEME					EXAMINATION SCHEME								
			HOURS / WEEK					THEORY					PRACTICAL			
								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 –lab.	--	--	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) Energy Conservation & Management (ii) Production Planning & Control (iii) Product Design &Development (iv) Artificial Intelligence																
8ME04 : Prof. Elect. IV: (i) Refrigeration & Air Conditioning (ii) Finite Element Analysis (iii) Robotics & Industrial Applications (iv) Rapid Prototyping																