MECHANICAL ENGINEERING

B. Tech. Mechanical Engineering – 2023 Batch COURSE COMPONENT AND CREDIT STRUCTURE

			Cre	dits
S.	Courses Category / Component	Abbreviation	Half	Full
No.	Courses Category / Component	Abbieviation	Semester	semester
			Project	Project
1	Basic Sciences	BSC	14	14
2	Engineering Sciences	ESC	21	21
3	Humanities and Social Sciences including	HSMC	0	0
3	Management	IISMC	7	7
4	Program Core	PCC	63	63
	Professional Electives with Half Semester		24	
5	Project	DEC	24	
5	Professional Electives with Full Semester	FEC		19
	Project			10
6	Open Electives	OEC	9	9
7	Skill-Based Courses	SBC	8	8
	Industrial Training Program			
	Mini Project		4	4
0	Summer Internship Program	р	4	4
o	Internship	r		
	Half Semester Project		8	
	Full Semester Project			14
9	Mandatory Courses	MC	0	0
10	MOOC Courses	MOOC	5	5
		Total Credits	165	165

CURRICULUM STRUCTURE AND COMPONENTS

	BASIC SCIENCE COURSES (BSC)									
S.			Но	urs	per		~			
No	Code No.	Course Title	T	weel	(D	Credits	Semester			
1	22ME1001	Engineering Materials	L 2		1	2	T			
1	23ME1001				0		1			
2	23ME1002	Drone Technology	2	0	0	2	Ι			
3	23MA1006	Linear Algebra, Calculus and Ordinary Differential Equations	inear Algebra, Calculus and Ordinary 2 0 2 Differential Equations							
4	23MA1007	Partial Differential Equations, Transforms and Numerical Methods	uations, 2 0 2		2	3	Π			
5	23MA2004	Probability and Statistics for Mechanical Engineering	and Statistics for Engineering202							
Number of credits to be earned in Basic Sciences Category										
ENGINEERING SCIENCE COURSES (FSC)										
	1 (unit)	ENGINEERING SCIENCE COUR	RSES	(ES	SC)	14				
G		ENGINEERING SCIENCE COUR	RSES Ho	ateg (ES urs	SC) per	14				
S.	Code No.	ENGINEERING SCIENCE COUR Course Title	RSES Ho	ateg (ES urs weel	<u>SC)</u> per	Credits	Semester			
S. No	Code No.	ENGINEERING SCIENCE COUR Course Title	RSES Ho	urs weel	SC) per c P	Credits	Semester			
S. No	Code No. 23ME1003	ENGINEERING SCIENCE COUR Course Title	RSES Ho L	iteg urs weel T 0	SC) per s P 0	Credits 2	Semester			
S. No 1 2	Code No. 23ME1003 23ME1004	ENGINEERING SCIENCE COUR Course Title Innovation and Creativity Industrial Robotics	RSES Ho L 2 3	urs weel T 0 0	SC) per s P 0 0	Credits 2 3	Semester II II			
S. No 1 2 3	Code No. 23ME1003 23ME1004 23ME1006	ENGINEERING SCIENCE COUR Course Title Innovation and Creativity Industrial Robotics Engineering Materials Laboratory	RSES Ho L 2 3 0	urs weel T 0 0	SC) per x P 0 0 2	Credits 2 3 1	Semester II II I			
S. No 1 2 3 4	Code No. 23ME1003 23ME1004 23ME1006 23ME1007	ENGINEERING SCIENCE COUR Course Title Innovation and Creativity Industrial Robotics Engineering Materials Laboratory Computer Graphics Laboratory (AutoCAD)	ESC SES Ho L 2 3 0 0	iteg urs weel T 0 0 0	ory per x 0 0 2 4	Credits 2 3 1 2	Semester II II I I			
S. No 1 2 3 4 5	Code No. 23ME1003 23ME1004 23ME1006 23ME1007 23ME1010	ENGINEERING SCIENCE COUR Course Title Innovation and Creativity Industrial Robotics Engineering Materials Laboratory Computer Graphics Laboratory (AutoCAD) Innovation and Creativity Laboratory	ESC SES Ho L 2 3 0 0 0 0	veel 0 0 0 0	or or per 0 0 0 2 4 2 4	Credits 2 3 1 2 1	Semester II II I I I I			

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7	23EE1009	Electric Circuits and Electronic Devices Lab.	0 0 4		4	2	Π				
8	23CS1015	C Programming and Applications	2	0	0	2	Ι				
9	23CS1016	C Programming and Applications Lab.	0 0 2			1	Ι				
10	23CS1017	Coding for Problem Solving - Python	oding for Problem Solving - Python 3 0 0								
11	23CS1018	Coding for Problem Solving - Python Lab.	0 0 2		1	II					
	Number of c	redits to be earned in Engineering Science	ces C	ateg	gory	21					
	HUMANITIES & SOCIAL SCIENCES INCLUDING MANAGEMENT COURSES										
	(HSMC)										
S	Hours per				per						
D. No	Code No.	Course Title		weel	κ.	Credits	Semester				
110			L	Т	P						
1	23ME2014	Engineering Economics and Operation Research	2	0	0	2	IV				
1 2	23ME2014 NPTEL	Engineering Economics and Operation Research Professional English	2 1	0	0	2	IV I				
1 2 3	23ME2014 NPTEL 23MS2001	Engineering Economics and Operation Research Professional English Concepts and Applications in Entrepreneurship	2 1 3	0 0 0	0 0 0	2 1 3	IV I I				
1 2 3 4	23ME2014 NPTEL 23MS2001 23MS1001	Engineering Economics and Operation Research Professional English Concepts and Applications in Entrepreneurship Data Analytics and Optimization Laboratory	2 1 3 0	0 0 0	0 0 0 2	2 1 3 1	IV I I II				
1 2 3 4 5	23ME2014 NPTEL 23MS2001 23MS1001 23MS2004	Engineering Economics and Operation Research Professional English Concepts and Applications in Entrepreneurship Data Analytics and Optimization Laboratory Business Plan for Start-up	2 1 3 0 2	0 0 0 0	0 0 0 2 0	2 1 3 1 2	IV I I II VI				
1 2 3 4 5	23ME2014 NPTEL 23MS2001 23MS1001 23MS2004 Number of	Engineering Economics and Operation Research Professional English Concepts and Applications in Entrepreneurship Data Analytics and Optimization Laboratory Business Plan for Start-up credits to be earned in Humanities & Soc	2 1 3 0 2 cial S	0 0 0 0 0 5 cier	0 0 2 0 nces	2 1 3 1 2 9	IV I I II VI				

	PROGRAM CORE COURSES (PCC)										
S.			Ho	ours	per		~				
No	Code No.	Course Title	L	week T	Р	Credits	Semester				
1	23ME2006	Engineering Mechanics	3	0	0	3	III				
2	23ME2007	Thermodynamics	3	0	0	3	III				
3	23ME2008	Fluid Mechanics and Fluid Machines	3	0	0	3	III				
4	23ME2009	Fluid Power Control Engineering	2	0	0	2	III				
5	23ME2010	Electric Vehicle Design	3	0	0	3	III				
6	23ME2011	Strength of Materials	3	0	0	3	IV				
7	23ME2012	Kinematics and Dynamics of Machinery	3	0	0	3	IV				
8	23ME2013	Applied Thermodynamics	3	0	0	3	IV				
9	23ME2015	Piping Design and Instrumentation	2	0	0	2	IV				
10	23ME2016	Design of Machine Elements	3	0	0	3	V				
11	23ME2017	Smart Manufacturing	3	0	0	3	V				
12	23ME2018	Heat and Mass Transfer	3	0	0	3	V				
13	23ME2019	Finite Element Methods in Engineering	3	0	0	3	VI				
14	23ME2020	Gas Dynamics and Jet Propulsion	3	0	0	3	VI				
15	23ME2021	Computational Fluid Dynamics	3	0	0	3	VII				
16	23ME2022	Fluid Mechanics Laboratory	0	0	2	1	III				
17	23ME2023	Thermodynamics Laboratory	0	0	2	1	III				
18	23ME2025	Strength of Materials Laboratory	0	0	2	1	IV				
19	23ME2027	Applied Thermodynamics Laboratory	0	0	2	1	IV				
20	23ME2028	Metrology and Measurements Laboratory	0	0	2	1	IV				

21	23ME2030	Heat Transfer Laboratory	0	0	2	1	V	
22	23EC2020	Printed Circuit Board Design and	2	0	0	2	IV	
	23102020	Arduino Programming	2	0	0	2	1 4	
23	23EC2021	Arduino Programming Laboratory	0	0	2	1	IV	
24	23EC2023	Industry 5.0	2	0	0	2	V	
25	23CS2051	ANN and Machine Learning	2	0	0	2	V	
26	23CS2052	ANN and Machine Learning Laboratory	0	0	2	1	V	
27	23EC2017	Semiconductor and Chip Design	2	0	0	2	VI	
28	23CS2053	JAVA Programming	2	0	0	2	VI	
29	23AE2072	Subsonic Aerodynamics Laboratory	0	0	2	1	VI	
30	23CS2054	JAVA Programming Laboratory	0	0	2	1	VI	
	Numb	per of credits to be earned in Program Co	res (Categ	gory	63		
S			He	ours	per			
No	Code No.	Course Title		week		Credits	Semester	
			L	Т	P			
1	23ME2033	Hydrogen Fuel Cell Design	3	0	0	3		
2	23ME2034	Transmission System for Smart Vehicles	3	0	0	3		
3	23ME2035	Biomechanics and Human Movement	3	0	0	3		
4	23ME2036	Design and Programming of Industrial Robots	3	0	0	3		
5	23ME2037	Sustainable Energy Technologies	3	0	0	3	V to VIII	
6	23ME2038	Automotive Cybersecurity	3	0	0	3	V to VIII	
7	23ME2039	Energy Harvesting Technologies	3	0	0	3		
8	23ME2040	Artificial Intelligence in Mechanical Systems	3	0	0	3		
9	23ME2041	Industrial IoT for Mechanical Systems	3	0	0	3		
10	23ME2042	Experimental Methods in Engineering	3	0	0	3		
11	23ME2043	Data Science and Engineering	3	0	0	3		
Ha	lf Semester Pi	oject - Number of credits to be earned in	Pro	fessio	onal	24		
F	U.C	Electi	ves (<u>Categ</u>	gory			
гu	n Semester Pi	Oject - Number of creats to be earlied in Electi	ves (Categ	onai orv	18		
		OPEN ELECTIVE COURSES	(OE	<u>C</u>)	<u>, ,</u>			
G			H	ours	per			
S. No	Code No.	Course Title		week	<u> </u>	Credits	Semester	
110			L	Т	Р			
1	23ME2044	Industrial Safety Engineering	3	0	0	3	V to VII	
2	23ME2045	Modern Vehicle Technology	3	0	0	3	V to VII	
3	23ME2046	Automotive Materials and Electronics	3	0	0	3	V to VII	
4	23ME2047	Modern Manufacturing Techniques	3	0	0	3	V to VII	
5	23ME2048	Robotic Engineering	3	0	0	3	V to VII	
6	23ME2049	Fluid Power Applications	3	0	0	3	V to VII	
7	23ME2051	Fuel Cells Technology	3	0	0	3	V to VII	
8	23ME2052	MEMS and Micro Systems Fabrication	3	0	0	3	V to VII	
	Numb	er of credits to be earned in Open Electiv	ves C	ateg	ory	9		

		SKILL BASED COURS	ES (S	SBC))			
G				Ho	ours	per		
S. No	Code No.	Course Title			weel	k	Credits	Semester
110				L	T	P		
1	23ME1008	Welding Technology Laboratory		0	0	2	1	I
2	23ME1009	Additive Manufacturing Laboratory		0	0	2	1	Ι
3	23ME2024	Laboratory		0	0	2	1	III
4	23ME2026	Design Laboratory - II	Design Laboratory - II 0 0 2				1	IV
5	23EC2022	Sensors, Data Acquisition and Contro Laboratory	ol	0	0	2	1	IV
6	23ME2029	3D Printing and Computer Aided Manufacturing Laboratory		0	0	2	1	V
7	23ME2031	Computational Fluid Dynamics Laboratory		0	0	2	1	VII
8	23ME2032	Simulation and Analysis Laboratory		0	0	2	1	VII
	Number of	credits to be earned in Skill Based (Cours	ses C	ateg	ory	8	
		PROJECT				-	1	1
S.	Codo No	Course Title	Ho	urs p	oer v	veek	Creadita	Comoston
No	Code No.	Course Title		Т		Р	Credits	Semester
	ITP2921	Industrial Training Program						
1	MP2921	Mini Project	2 wooks				1	п
1	ISP2921	Internship		2 weeks			1	11
	SIP2921	Summer Internship Program						
	ITP2922	Industrial Training Program						
2	MP2922	Mini Project		2	aabo		1	Ш
	ISP2922	Internship		∠w	eeks		1	111
	SIP2922	Summer Internship Program						
	ITP2923	Industrial Training Program						
3	MP2923	Mini Project		2	aabo		1	IV
5	ISP2923	Internship		2 W	CCKS		1	1 V
	SIP2923	Summer Internship Program						
	ITP2924	Industrial Training Program						
4	MP2924	Mini Project	-	2 w	eeks		1	VI
-	ISP2924	Internship	-	2 **	CCRS		1	VI
	SIP2924	Summer Internship Program						
5	23ME2998	Half-Semester Project		45 I	Days		8	VIII
5	23ME2999	Full-Semester Project		90 I	Days		14	VIII
		Number of credits to be earned in	Proj	ject (Categ	gory	12/18	
		MANDATORY COU	RSE	S				
S. No	Code No.	Course Title	Ho L	urs p T	oer v	veek P	Credits	Semester
1	18MS2014	Constitution of India	2	0		0	0	Ι
2	18CH2001	Environmental Studies	2	0		0	0	II
					T	otal	0	
		MOOC COURSES (N	PTEI	L)			1	

MECHANICAL ENGINEERING

S.	Codo No	Course Title	Ho	urs pe	r week	Credita	Somostor	
No	Code No.	Course The	L	Т	Р	Creans	Semester	
1	MOOC	NPTEL Course-1	2	-	-	2	II	
2	MOOC	NPTEL Course-2	2	-	-	2	III	
3	MOOC	NPTEL Course-3	1	-	-	1	IV	
					Total	5		

SEMESTERWISE CURRICULUM

		SEMIESTER-1 (Focus towards Basics of Programmi	ng)			
S.	Course Code	Course Title	He	ours	per	Credite
No.	Course Coue	Course Thie	T.	T	:к Р	Creans
	Theory Cours	es		-	<u> </u>	
1	23ME1001	Engineering Materials	3	0	0	3
2	23ME1002	Drone Technology	2	0	0	2
3	NPTEL	Professional English	1	0	0	1
		Linear Algebra, Calculus and Ordinary				
4	23MA1006	Differential Equations	2	0	2	3
5	23CS1015	C Programming and Applications	2	0	0	2
6	23MS2001	Concepts and Applications in Entrepreneurship	3	0	0	3
7	18MS2014	Constitution of India	2	0	0	0
		Sub Total Credits for T	heory	' Co	urses	14
	Laboratory C	ourses				
1	23ME1006	6 Engineering Materials Laboratory		0	2	1
2	23ME1007	Computer Graphics Laboratory (AutoCAD)	0	0	4	2
3	23ME1008	Welding Technology Laboratory	0	0	2	1
4	23ME1009	Additive Manufacturing Laboratory	0	0	2	1
5	23CS1016	C Programming and Applications Lab.	0	0	2	1
		Sub Total Credits for Labor	atory	Co	urses	6
					Total	20
	,					
		SEMESTER- II (Focus towards Basics of Programmi	ng)			
S		SEMESTER- II (Focus towards Basics of Programmi	ng) Ho	ours	per	
S. No.	Course Code	SEMESTER- II (Focus towards Basics of Programmi Course Title	ng) He	ours Wee	per ek	Credits
S. No.	Course Code	SEMESTER- II (Focus towards Basics of Programmi Course Title	ng) Ho L	ours Wee T	per ek P	Credits
S. No.	Course Code Theory Cours	SEMESTER- II (Focus towards Basics of Programmi Course Title es	ng) Ho L	ours Wee T	per ek P	Credits
S. No.	Course Code Theory Cours 23ME1003	Course Title es Innovation and Creativity	ng) Ho L	Wee T	per ek P	Credits
S. No.	Course Code Theory Cours 23ME1003 23ME1004	SEMESTER- II (Focus towards Basics of Programmi Course Title es Innovation and Creativity Industrial Robotics	ng) H(L 2 3	Wee T 0 0	per P 0 0	Credits 2 3
S. No. 1 2 3	Course Code Theory Cours 23ME1003 23ME1004 23MA1007	SEMESTER- II (Focus towards Basics of Programmi Course Title es Innovation and Creativity Industrial Robotics Partial Differential Equations, Transforms and Numerical Methods	ng) H(L 2 3 2	Wee T 0 0	per P 0 0 2	Credits 2 3 3
S. No. 1 2 3 4	Course Code Theory Cours 23ME1003 23ME1004 23MA1007 23EE1008	Course Title es Innovation and Creativity Industrial Robotics Partial Differential Equations, Transforms and Numerical Methods Electric Circuits and Electronic Devices	ng) H(2 3 2 3	Wee T 0 0 0 0	per ek P 0 0 2 0	Credits 2 3 3 3 3
S. No. 1 2 3 4 5	Course Code Theory Cours 23ME1003 23ME1004 23MA1007 23EE1008 23CS1017	Course Title es Innovation and Creativity Industrial Robotics Partial Differential Equations, Transforms and Numerical Methods Electric Circuits and Electronic Devices Coding for Problem Solving - Python	ng) H(2 3 2 3 3 3	Wee T 0 0 0 0 0	per ek P 0 0 2 0 0 0 0	Credits 2 3 3 3 3 3
S. No. 1 2 3 4 5 6	Course Code Theory Cours 23ME1003 23ME1004 23MA1007 23EE1008 23CS1017 18CH2001	SEMESTER- II (Focus towards Basics of Programmi Course Title es Innovation and Creativity Industrial Robotics Partial Differential Equations, Transforms and Numerical Methods Electric Circuits and Electronic Devices Coding for Problem Solving - Python Environmental Studies	ng) H(2 3 2 3 3 3 2	Ours Wee T 0 0 0 0 0 0 0 0 0 0 0 0	per P 0 0 2 0 0 0	Credits 2 3 3 3 3 0
S. No. 1 2 3 4 5 6 7	Course Code Theory Cours 23ME1003 23ME1004 23MA1007 23EE1008 23CS1017 18CH2001 MOOC	SEMESTER- II (Focus towards Basics of Programmi Course Title es Innovation and Creativity Industrial Robotics Partial Differential Equations, Transforms and Numerical Methods Electric Circuits and Electronic Devices Coding for Problem Solving - Python Environmental Studies NPTEL Course-1	ng) H(2 3 2 3 2 3 2 4 2	Ours Weee T 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	per ek P 0 0 2 0 0 0 0 0 0 0 0 0 0	Credits 2 3 3 3 0
S. No. 1 2 3 4 5 6 7	Course Code Theory Cours 23ME1003 23ME1004 23MA1007 23EE1008 23CS1017 18CH2001 MOOC	Course Title es Innovation and Creativity Industrial Robotics Partial Differential Equations, Transforms and Numerical Methods Electric Circuits and Electronic Devices Coding for Problem Solving - Python Environmental Studies NPTEL Course-1 Sub Total Credits for TH	ng) H(2 3 2 3 2 3 3 2 2 	Ours Wee T 0	per P 0 0 2 0 0 0 0 1 Irses	Credits 2 3 3 3 0 14
S. No. 1 2 3 4 5 6 7	Course Code Theory Cours 23ME1003 23ME1004 23MA1007 23EE1008 23CS1017 18CH2001 MOOC Laboratory C	SEMESTER- II (Focus towards Basics of Programmi Course Title es Innovation and Creativity Industrial Robotics Partial Differential Equations, Transforms and Numerical Methods Electric Circuits and Electronic Devices Coding for Problem Solving - Python Environmental Studies NPTEL Course-1 Sub Total Credits for Th ourses	ng) H(2 3 2 3 2 3 3 2 1 2 1 0 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1	Ours Weee T 0	per ek P 0 0 2 0 0 0 0 0	Credits 2 3 3 3 3 0 14
S. No. 1 2 3 4 5 6 7 1	Course Code Theory Cours 23ME1003 23ME1004 23MA1007 23EE1008 23CS1017 18CH2001 MOOC Laboratory C 23ME1010	SEMESTER- II (Focus towards Basics of Programmi Course Title es Innovation and Creativity Industrial Robotics Partial Differential Equations, Transforms and Numerical Methods Electric Circuits and Electronic Devices Coding for Problem Solving - Python Environmental Studies NPTEL Course-1 Sub Total Credits for TI ourses Innovation and Creativity Laboratory	ng) H(2 3 2 3 3 2 3 3 2 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Ours Weee T 0	per P 0 0 2 0 0 0 0 1 Irses 2	Credits 2 3 3 3 0 14 1
S. No. 1 2 3 4 5 6 7 1 2	Course Code Theory Cours 23ME1003 23ME1004 23MA1007 23EE1008 23CS1017 18CH2001 MOOC Laboratory C 23ME1010 23EE1009	SEMESTER- II (Focus towards Basics of Programmi Course Title Course Title Innovation and Creativity Industrial Robotics Partial Differential Equations, Transforms and Numerical Methods Electric Circuits and Electronic Devices Coding for Problem Solving - Python Environmental Studies NPTEL Course-1 Sub Total Credits for TI Ourses Innovation and Creativity Laboratory Electric Circuits and Electronic Devices Lab.	ng) H(2 3 2 3 2 3 3 2 2 3 3 2 2 1 0 0 0	Ours Weee T 0	per P 0 0 2 0 0 0 0 1rses 2 4	Credits 2 3 3 3 0 1 2
S. No. 1 2 3 4 5 6 7 7 1 2 3	Course Code Theory Cours 23ME1003 23ME1004 23MA1007 23EE1008 23CS1017 18CH2001 MOOC Laboratory C 23ME1010 23EE1009 23MS1001	SEMESTER- II (Focus towards Basics of Programmi Course Title course Title Innovation and Creativity Industrial Robotics Partial Differential Equations, Transforms and Numerical Methods Electric Circuits and Electronic Devices Coding for Problem Solving - Python Environmental Studies NPTEL Course-1 Sub Total Credits for TI Ourses Innovation and Creativity Laboratory Electric Circuits and Electronic Devices Lab. Data Analytics and Optimization Laboratory	ng) H(2 3 2 3 2 3 3 2 2 3 3 2 2 0 0 0 0 0 0	Ours Weee T 0	per ek P 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 2 4 2	Credits 2 3 3 3 0 14 1 2 1 2 1
S. No. 1 2 3 4 5 6 7 7 1 2 3 4	Course Code Theory Cours 23ME1003 23ME1004 23MA1007 23EE1008 23CS1017 18CH2001 MOOC Laboratory C 23ME1010 23EE1009 23MS1001 23CS1018	SEMESTER- II (Focus towards Basics of Programmi Course Title es Innovation and Creativity Industrial Robotics Partial Differential Equations, Transforms and Numerical Methods Electric Circuits and Electronic Devices Coding for Problem Solving - Python Environmental Studies NPTEL Course-1 Sub Total Credits for TI Ourses Innovation and Creativity Laboratory Electric Circuits and Electronic Devices Lab. Data Analytics and Optimization Laboratory Coding for Problem Solving - Python Lab.	ng) H(2 3 2 3 2 3 3 2 3 3 2 5 1 0 0 0 0 0 0 0 0	Ours Weee T 0	per P 0 0 2 0 0 0 0 0 0 1 2 4 2 2 4 2 2	Credits 2 3 3 3 3 0 14 1 2 1 1 1 1
S. No. 1 2 3 4 5 6 7 1 2 3 4	Course Code Theory Cours 23ME1003 23ME1004 23MA1007 23EE1008 23CS1017 18CH2001 MOOC Laboratory C 23ME1010 23EE1009 23MS1001 23CS1018 ITP2921	SEMESTER- II (Focus towards Basics of Programmi Course Title es Innovation and Creativity Industrial Robotics Partial Differential Equations, Transforms and Numerical Methods Electric Circuits and Electronic Devices Coding for Problem Solving - Python Environmental Studies NPTEL Course-1 Sub Total Credits for TI Ourses Innovation and Creativity Laboratory Electric Circuits and Electronic Devices Lab. Data Analytics and Optimization Laboratory Coding for Problem Solving - Python Lab. Industrial Training Program	ng) H(2 3 2 3 2 3 2 3 2 2 3 3 2 2 0 0 0 0 0 0	Ours Wee T 0	per P 0 0 2 0	Credits 2 3 3 3 0 14 1 2 1 1 1 1 1
S. No. 1 2 3 4 5 6 7 1 2 3 4 5	Course Code Theory Cours 23ME1003 23ME1004 23MA1007 23EE1008 23CS1017 18CH2001 MOOC Laboratory C 23ME1010 23EE1009 23MS1001 23CS1018 ITP2921 MP2921	SEMESTER- II (Focus towards Basics of Programmi Course Title es Innovation and Creativity Industrial Robotics Partial Differential Equations, Transforms and Numerical Methods Electric Circuits and Electronic Devices Coding for Problem Solving - Python Environmental Studies NPTEL Course-1 Sub Total Credits for TI ourses Innovation and Creativity Laboratory Electric Circuits and Electronic Devices Lab. Data Analytics and Optimization Laboratory Coding for Problem Solving - Python Lab. Industrial Training Program Mini Project	ng) H(2 3 2 3 2 2 3 3 2 2 3 3 2 2 0 0 0 0 0 0	Ours T 0	per - P 0 0 0 2 0 0 0 1 0 2 2 4 2 2 2	Credits 2 3 3 3 0 1 2 1 1 1 1 1 1 1 1 1 1 1 1
S. No. 1 2 3 4 5 6 7 7 1 2 3 4 5	Course Code Theory Cours 23ME1003 23ME1004 23ME1004 23MA1007 23EE1008 23CS1017 18CH2001 MOOC Laboratory C 23ME1010 23EE1009 23MS1001 23CS1018 ITP2921 MP2921 ISP2921	SEMESTER- II (Focus towards Basics of Programmi Course Title es Innovation and Creativity Industrial Robotics Partial Differential Equations, Transforms and Numerical Methods Electric Circuits and Electronic Devices Coding for Problem Solving - Python Environmental Studies NPTEL Course-1 Sub Total Credits for TI Ourses Innovation and Creativity Laboratory Electric Circuits and Electronic Devices Lab. Data Analytics and Optimization Laboratory Coding for Problem Solving - Python Lab. Industrial Training Program Mini Project Internship	ng) H(2 3 2 3 2 3 3 2 3 3 2 2 3 3 2 2 0 0 0 0	Ours Weee T 0	per ek P 0 0 2 0 0 0 0 0 0 0 0 0 1 1 2 4 2 2 4 2 2 eks	Credits 2 3 3 3 0 1 2 1 1 1 1 1

		Sub Total Credits for Laboratory Courses							
					Total	20			
		SEMESTER- III (Focus towards Automobile sector))						
G	Course		Ho	ours	s per				
No	Code	Course Title		We	ek	Credits			
110.	Couc		L	Τ	Р				
	Theory Cou	ses							
1	23ME2006	Engineering Mechanics	3	0	0	3			
2	23ME2007	Thermodynamics	3	0	0	3			
3	23ME2008	Fluid Mechanics and Fluid Machines	3	0	0	3			
4	23ME2009	Fluid Power Control Engineering	2	0	0	2			
5	23ME2010	Electric Vehicle Design	3	0	0	3			
6	2214 2004	Probability and Statistics for Mechanical	2	0	2	2			
0	23MA2004	Engineering	2	0	2	3			
7	MOOC	NPTEL Course-2							
		Sub Total Credits for Th	ieory	Co	urses	17			
	Laboratory	Courses	ľ.						
1	23ME2022	Fluid Mechanics Laboratory	0	0	2	1			
2	23ME2023	Thermodynamics Laboratory	0	0	2	1			
3	23ME2024	Fluid Power Control Engineering Laboratory	0	0	2	1			
-	ITP2922	Industrial Training Program		Ţ					
	MP2922	Mini Project							
4	ISP2922	Internship	2	we	eks	1			
	SIP2922	Summer Internship Program							
	511 2722	Sub Total Credits for Laboratory Courses							
Sub Total Cicults for Laboratory Courses									
	SEMES	TER. IV (Focus towards Construction Oil and Gas indu	ustrv	sect	or)	41			
Hours per									
				mrs					
S.	Course	Course Title	HO	ours We	s per ek	Credits			
S. No.	Course Code	Course Title	Ho L	ours Wee T	s per ek P	Credits			
S. No.	Course Code Theory Cou	Course Title	Ho L	ours Wee T	s per ek P	Credits			
S. No.	Course Code Theory Cour 23ME2011	Course Title ses Strength of Materials	L 3	Wee T	s per ek P 0	Credits			
S. No.	Course Code Theory Cour 23ME2011 23ME2012	Course Title ses Strength of Materials Kinematics and Dynamics of Machinery	Ho L 3 3	Wee T 0	s per ek P 0 0	Credits 3 3			
S. No. 1 2 3	Course Code Theory Cour 23ME2011 23ME2012 23ME2013	Course Title ses Strength of Materials Kinematics and Dynamics of Machinery Applied Thermodynamics	Ho L 3 3 3	Wee T 0 0	s per ek P 0 0 0	Credits 3 3 3			
S. No. 1 2 3 4	Course Code Theory Cour 23ME2011 23ME2012 23ME2013 23ME2014	Course Title ses Strength of Materials Kinematics and Dynamics of Machinery Applied Thermodynamics Engineering Economics and Operation Research	L 3 3 3 2	Wee T 0 0 0	P 0 0 0 0 0 0	Credits 3 3 3 2			
S. No. 1 2 3 4 5	Course Code Theory Cour 23ME2011 23ME2012 23ME2013 23ME2014 23ME2015	Course Title ses Strength of Materials Kinematics and Dynamics of Machinery Applied Thermodynamics Engineering Economics and Operation Research Piping Design and Instrumentation	L 3 3 2 2	Wee T 0 0 0 0 0	P 0 0 0 0 0 0 0 0 0	Credits 3 3 2 2			
S. No. 1 2 3 4 5	Course Code Theory Course 23ME2011 23ME2012 23ME2013 23ME2014 23ME2015	Course Title ses Strength of Materials Kinematics and Dynamics of Machinery Applied Thermodynamics Engineering Economics and Operation Research Piping Design and Instrumentation Printed Circuit Board Design and Arduino	L 3 3 2 2	Wee T 0 0 0 0 0	P 0 0 0 0 0 0	Credits 3 3 2 2 2			
S. No. 1 2 3 4 5 6	Course Code Theory Course 23ME2011 23ME2012 23ME2013 23ME2014 23ME2015 23EC2020	Course Title ses Strength of Materials Kinematics and Dynamics of Machinery Applied Thermodynamics Engineering Economics and Operation Research Piping Design and Instrumentation Printed Circuit Board Design and Arduino Programming	L 3 3 2 2 2 2	We T 0 0 0 0 0 0 0 0 0 0 0 0 0	per ek 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Credits 3 3 2 2 2 2			
S. No. 1 2 3 4 5 6 7	Course Code Theory Course 23ME2011 23ME2012 23ME2013 23ME2014 23ME2015 23EC2020 MOOC	Course Title ses Strength of Materials Kinematics and Dynamics of Machinery Applied Thermodynamics Engineering Economics and Operation Research Piping Design and Instrumentation Printed Circuit Board Design and Arduino Programming NPTEL Course-3	L 3 3 2 2 2 2	Ours Wee T 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	P 0 0 0 0 0 0 0 0 0 0 0 0 0	Credits 3 3 2 2 2 2			
S. No. 1 2 3 4 5 6 7	Course Code Theory Course 23ME2011 23ME2012 23ME2013 23ME2014 23ME2015 23EC2020 MOOC	Course Title ses Strength of Materials Kinematics and Dynamics of Machinery Applied Thermodynamics Engineering Economics and Operation Research Piping Design and Instrumentation Printed Circuit Board Design and Arduino Programming NPTEL Course-3	L 3 3 2 2 2	Wee T 0 0 0 0 0 0 0 0 0 0 0 0 0	P 0 0 0 0 0 0 0 0 0 0 0	Credits 3 3 2 2 2 15			
S. No. 1 2 3 4 5 6 7	Course Code Theory Course 23ME2011 23ME2012 23ME2013 23ME2014 23ME2015 23EC2020 MOOC	Ses Strength of Materials Kinematics and Dynamics of Machinery Applied Thermodynamics Engineering Economics and Operation Research Piping Design and Instrumentation Printed Circuit Board Design and Arduino Programming NPTEL Course-3 Sub Total Credits for The Sources	L 3 3 2 2 2 2	Wee T 0	per ek P 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Credits 3 3 2 2 2 15			
S. No. 1 2 3 4 5 6 7 	Course Code Theory Course 23ME2011 23ME2012 23ME2013 23ME2014 23ME2015 23EC2020 MOOC Laboratory 23ME2025	Course Title ses Strength of Materials Kinematics and Dynamics of Machinery Applied Thermodynamics Engineering Economics and Operation Research Piping Design and Instrumentation Printed Circuit Board Design and Arduino Programming NPTEL Course-3 Sub Total Credits for The Courses Strength of Materials Laboratory	L 3 3 2 2 2 2 2 2 0	Ours Wee T 0	per ek 0 0	Credits 3 3 2 2 2 15 1			
S. No. 1 2 3 4 5 6 7 1 2	Course Code Theory Cour 23ME2011 23ME2012 23ME2013 23ME2014 23ME2015 23EC2020 MOOC Laboratory 23ME2025 23ME2025	Course Title ses Strength of Materials Kinematics and Dynamics of Machinery Applied Thermodynamics Engineering Economics and Operation Research Piping Design and Instrumentation Printed Circuit Board Design and Arduino Programming NPTEL Course-3 Sub Total Credits for The Courses Strength of Materials Laboratory Design Laboratory - II	L 3 3 2 2 2 2 2 0 0	Ours Wee T 0	P 0 2 2	Credits 3 3 2 2 2 15 1 1			
S. No. 1 2 3 4 5 6 7 1 2 3	Course Code Theory Cour 23ME2011 23ME2012 23ME2013 23ME2014 23ME2015 23EC2020 MOOC Laboratory 23ME2025 23ME2025 23ME2026 23ME2027	Course Title ses Strength of Materials Kinematics and Dynamics of Machinery Applied Thermodynamics Engineering Economics and Operation Research Piping Design and Instrumentation Printed Circuit Board Design and Arduino Programming NPTEL Course-3 Sub Total Credits for The Courses Strength of Materials Laboratory Design Laboratory - II Applied Thermodynamics Laboratory	L 3 3 2 2 2 2 2 2 0 0 0 0	Ours Wei T 0	P 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 2 2 2 2 2 2	Credits 3 3 2 2 2 15 1 1 1			
S. No. 1 2 3 4 5 6 7 7 1 2 3 4	Course Code Theory Cour 23ME2011 23ME2012 23ME2013 23ME2014 23ME2015 23EC2020 MOOC Laboratory 23ME2025 23ME2026 23ME2027 23ME2028	Course Title ses Strength of Materials Kinematics and Dynamics of Machinery Applied Thermodynamics Engineering Economics and Operation Research Piping Design and Instrumentation Printed Circuit Board Design and Arduino Programming NPTEL Course-3 Sub Total Credits for TH Courses Strength of Materials Laboratory Design Laboratory - II Applied Thermodynamics Laboratory Metrology and Measurements Laboratory	L 3 3 2 2 2 2 2 2 2 0 0 0 0 0 0	Ours Wee T 0	P 0	Credits 3 3 2 2 2 15 1 1 1 1 1 1			
S. No. 1 2 3 4 5 6 7 7 1 2 3 4	Course Code Theory Course 23ME2011 23ME2012 23ME2013 23ME2014 23ME2015 23EC2020 MOOC Laboratory 23ME2025 23ME2026 23ME2027 23ME2028	Course Title ses Strength of Materials Kinematics and Dynamics of Machinery Applied Thermodynamics Engineering Economics and Operation Research Piping Design and Instrumentation Printed Circuit Board Design and Arduino Programming NPTEL Course-3 Sub Total Credits for Th Courses Strength of Materials Laboratory Design Laboratory - II Applied Thermodynamics Laboratory Metrology and Measurements Laboratory Printed Circuit Board Design and Arduino	L 3 3 2 2 2 2 2 2 2 2 2 0 0 0 0 0 0	Ours Wee T 0	P 0	Credits 3 3 2 2 2 15 1 1 1 1 1 1 1 1			
S. No. 1 2 3 4 5 6 7 7 1 2 3 4 5	Course Code Theory Course 23ME2011 23ME2012 23ME2013 23ME2014 23ME2015 23EC2020 MOOC Laboratory 23ME2025 23ME2026 23ME2027 23ME2028 23EC2021	Course Title ses Strength of Materials Kinematics and Dynamics of Machinery Applied Thermodynamics Engineering Economics and Operation Research Piping Design and Instrumentation Printed Circuit Board Design and Arduino Programming NPTEL Course-3 Sub Total Credits for TH Courses Strength of Materials Laboratory Design Laboratory - II Applied Thermodynamics Laboratory Metrology and Measurements Laboratory Printed Circuit Board Design and Arduino Programming L aboratory	L 3 3 2 2 2 2 2 2 0 0 0 0 0 0 0 0 0	Ours Wee T 0	P 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 2 2 2 2 2 2 2 2 2 2 2	Credits 3 3 2 2 2 15 1 1 1 1 1 1 1 1			
S. No. 1 2 3 4 5 6 7 1 2 3 4 5 5 6	Course Code Theory Cour 23ME2011 23ME2012 23ME2013 23ME2014 23ME2015 23EC2020 MOOC 23ME2025 23ME2025 23ME2026 23ME2027 23ME2028 23EC2021 23EC2022	Course Title ses Strength of Materials Kinematics and Dynamics of Machinery Applied Thermodynamics Engineering Economics and Operation Research Piping Design and Instrumentation Printed Circuit Board Design and Arduino Programming NPTEL Course-3 Sub Total Credits for The Courses Strength of Materials Laboratory Design Laboratory - II Applied Thermodynamics Laboratory Metrology and Measurements Laboratory Printed Circuit Board Design and Arduino Programming Laboratory	L 3 3 2 2 2 2 2 2 2 2 2 2 2 2 2 0 0 0 0 0	Ours Wee T 0	P 0	Credits 3 3 2 2 2 15 1 1 1 1 1 1 1 1			
S. No. 1 2 3 4 5 6 7 1 2 3 4 5 6	Course Code Theory Cour 23ME2011 23ME2012 23ME2013 23ME2014 23ME2015 23EC2020 MOOC Laboratory 23ME2025 23ME2026 23ME2026 23ME2028 23EC2021 23EC2022 LTP2023	Course Title ses Strength of Materials Kinematics and Dynamics of Machinery Applied Thermodynamics Engineering Economics and Operation Research Piping Design and Instrumentation Printed Circuit Board Design and Arduino Programming NPTEL Course-3 Sub Total Credits for TH Courses Strength of Materials Laboratory Design Laboratory - II Applied Thermodynamics Laboratory Metrology and Measurements Laboratory Printed Circuit Board Design and Arduino Programming Laboratory Sensors, Data Acquisition and Control Laboratory Industrial Training Program	L 3 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Ours Wee T 0	P 0	Credits 3 3 2 2 2 15 1 1 1 1 1 1 1 1			
S. No. 1 2 3 4 5 6 7 1 2 3 4 5 6	Course Code Theory Cour 23ME2011 23ME2012 23ME2013 23ME2014 23ME2015 23EC2020 MOOC Laboratory 23ME2025 23ME2025 23ME2026 23ME2027 23ME2028 23EC2021 23EC2022 ITP2923 MP2023	Course Title ses Strength of Materials Kinematics and Dynamics of Machinery Applied Thermodynamics Engineering Economics and Operation Research Piping Design and Instrumentation Printed Circuit Board Design and Arduino Programming NPTEL Course-3 Sub Total Credits for Th Courses Strength of Materials Laboratory Design Laboratory - II Applied Thermodynamics Laboratory Metrology and Measurements Laboratory Printed Circuit Board Design and Arduino Programming Laboratory Sensors, Data Acquisition and Control Laboratory Industrial Training Program Mini Project	L 3 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Ours Wee T 0	P 0	Credits 3 3 2 2 2 15 1 1 1 1 1 1 1 1			
S. No. 1 2 3 4 5 6 7 1 2 3 4 5 6 7 7	Course Code Theory Cour 23ME2011 23ME2012 23ME2013 23ME2014 23ME2015 23EC2020 MOOC Laboratory 23ME2025 23ME2026 23ME2026 23ME2026 23ME2027 23ME2028 23EC2021 23EC2021 23EC2022 ITP2923 MP2923	Course TitlesesStrength of MaterialsKinematics and Dynamics of MachineryApplied ThermodynamicsEngineering Economics and Operation ResearchPiping Design and InstrumentationPrinted Circuit Board Design and ArduinoProgrammingNPTEL Course-3Sub Total Credits for ThCoursesStrength of Materials LaboratoryDesign Laboratory - IIApplied Thermodynamics LaboratoryMetrology and Measurements LaboratoryPrinted Circuit Board Design and ArduinoProgramming LaboratorySensors, Data Acquisition and Control LaboratoryIndustrial Training ProgramMini Project	L 3 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Ours Wee T 0 <td>P 0</td> <td>Credits 3 3 2 2 2 2 15 1 1 1 1 1 1 1 1</td>	P 0	Credits 3 3 2 2 2 2 15 1 1 1 1 1 1 1 1			
S. No. 1 2 3 4 5 6 7 1 2 3 4 5 6 7 7	Course Code Theory Cour 23ME2011 23ME2012 23ME2013 23ME2014 23ME2015 23EC2020 MOOC 23ME2025 23ME2025 23ME2026 23ME2027 23ME2028 23EC2021 23EC2022 ITP2923 MP2923 ISP2923	Course TitlesesStrength of MaterialsKinematics and Dynamics of MachineryApplied ThermodynamicsEngineering Economics and Operation ResearchPiping Design and InstrumentationPrinted Circuit Board Design and ArduinoProgrammingNPTEL Course-3Sub Total Credits for ThCoursesStrength of Materials LaboratoryDesign Laboratory - IIApplied Thermodynamics LaboratoryMetrology and Measurements LaboratoryPrinted Circuit Board Design and ArduinoProgramming LaboratorySensors, Data Acquisition and Control LaboratoryIndustrial Training ProgramMini ProjectInternshipSummar Internship Descrem	L 3 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Ours Wee T 0	Per P 0	Credits 3 3 2 2 2 15 1 1 1 1 1 1 1 1			
S. No. 1 2 3 4 5 6 7 1 2 3 4 5 6 7 7	Course Code Theory Course 23ME2011 23ME2012 23ME2013 23ME2014 23ME2015 23ME2015 23ME2010 MOOC Laboratory 23ME2025 23ME2026 23ME2027 23ME2028 23EC2021 23EC2022 ITP2923 MP2923 ISP2923 SIP2923	Course Title ses Strength of Materials Kinematics and Dynamics of Machinery Applied Thermodynamics Engineering Economics and Operation Research Piping Design and Instrumentation Printed Circuit Board Design and Arduino Programming NPTEL Course-3 Sub Total Credits for Th Courses Strength of Materials Laboratory Design Laboratory - II Applied Thermodynamics Laboratory Metrology and Measurements Laboratory Printed Circuit Board Design and Arduino Programming Laboratory Sensors, Data Acquisition and Control Laboratory Industrial Training Program Mini Project Internship Summer Internship Program	L 3 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Ours Wee T 0 <td>P 0</td> <td>Credits 3 3 2 2 2 15 1 1 1 1 1 1 1 1</td>	P 0	Credits 3 3 2 2 2 15 1 1 1 1 1 1 1 1			
S. No. 1 2 3 4 5 6 7 1 2 3 4 5 6 7 7	Course Code Theory Course 23ME2011 23ME2012 23ME2013 23ME2014 23ME2014 23ME2015 23EC2020 MOOC Laboratory 23ME2025 23ME2026 23ME2027 23ME2028 23EC2021 23EC2022 ITP2923 MP2923 ISP2923 SIP2923	Course Title ses Strength of Materials Kinematics and Dynamics of Machinery Applied Thermodynamics Engineering Economics and Operation Research Piping Design and Instrumentation Printed Circuit Board Design and Arduino Programming NPTEL Course-3 Sub Total Credits for Th Courses Strength of Materials Laboratory Design Laboratory - II Applied Thermodynamics Laboratory Metrology and Measurements Laboratory Printed Circuit Board Design and Arduino Programming Laboratory Sensors, Data Acquisition and Control Laboratory Industrial Training Program Mini Project Internship Summer Internship Program	L 3 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Ours Wee T 0 <td>per per ek P 0<td>Credits 3 3 2 2 2 15 1 1 1 1 1 1 1 7 2 2 2 2 2 2 2 2 2</td></td>	per per ek P 0 <td>Credits 3 3 2 2 2 15 1 1 1 1 1 1 1 7 2 2 2 2 2 2 2 2 2</td>	Credits 3 3 2 2 2 15 1 1 1 1 1 1 1 7 2 2 2 2 2 2 2 2 2			

SEMESTER- V (Focus towards Design and Manufacturing sector)								
G	Course		H	ours	per			
D. No	Course	Course Title		Wee	ek	Credits		
190.	Code		L	Т	Р			
	Theory Cou	rses						
1	23ME2016	Design of Machine Elements	3	0	0	3		
2	23ME2017	Smart Manufacturing	3	0	0	3		
3	23ME2018	Heat and Mass Transfer	3	0	0	3		
4	23EC2023	Industry 5.0	2	0	0	2		
5	23CS2051	ANN and Machine Learning	2	0	0	2		
6	PEC	Professional Elective - 1	3	0	0	3		
7	OEC	Open Elective -1	3	0	0	3		
		Sub Total Credits for Theory Courses						
	Laboratory	Courses						
1	23ME2029	3D Printing and Computer Aided Manufacturing	0	0	2	1		
1	23101122027	Laboratory	0	0	2	1		
2	23ME2030	Heat Transfer Laboratory	0	0	2	1		
3	23CS2052	ANN and Machine Learning Laboratory	0	0	2	1		
		Sub Total Credits for Labor	atory	y Co	urses	3		
				r	Fotal	22		
	SEM	ESTER- VI (Focus towards Aerospace, Nuclear and Man	rine s	ector)			
S.	Course		H	ours	per			
No.	Code	Course Title		wee	ek D	Credits		
	The energy Course		L	I	P			
1	1 neory Cou	rses	2	0	0	2		
1	23ME2019	Cas Demonstrate and lat Decoulting	2	0	0	3		
2	23ME2020	Gas Dynamics and Jet Propulsion	3	0	0	<u> </u>		
3	23052053	JAVA Programming	2	0	0	2		
4	2314152004	Semiconductor and Chin Decian	2	0	0	2		
5	23EC2017	Professional Elective 2	2	0	0	2		
7	OEC	Professional Elective - 2	3	0	0	3		
/	OLC	Sub Total Cradits for T						
	Laboratory				ui ses	10		
1	$\frac{120014001y}{234E2077}$	Subsonic Aerodynamics Laboratory	0	0	2	1		
2	23682077	IAVA Programming Laboratory	0	0	2	1		
	23C32034	Industrial Training Program	0	0	2	1		
	MP2024	Mini Project	_					
3	ISP2024	Internship	2	2 wee	eks	1		
	SID2024	Summer Internship Program	_					
	511 2724	Sub Total Credits for Labor	atory		IITSAS	3		
				<u>, cu</u>	Ental	21		
	SEMES	TER- VII (Focus towards Sustainable Energy and Healt	hcar	e Sec	tor)			
~	~		H	ours	per			
S.	Course	Course Title		Wee	ek i	Credits		
No.	Code		L	Т	Р			
	Theory Cou	rses						
1	23ME2021	Computational Fluid Dynamics	3	0	0	3		
2	PEC	Professional Elective - 3	3	0	0	3		
3	PEC	Professional Elective - 4	3	0	0	3		
4	PEC	Professional Elective - 5	3	0	0	3		
5	PEC	Professional Elective - 6	3	0	0	3		
6	OEC	Open Elective -3	3	0	0	3		
		Sub Total Credits for T	neory	y Co	urses	18		

	Laboratory	Courses							
1	23ME2031	Computational Fluid Dynamics Laboratory	0	0	2	1			
2	23ME2032	Simulation and Analysis Laboratory	ry 0 0 2						
	Sub Total Credits for Laboratory Courses								
				,	20				
SEM	ESTER- VIII	(Project focusing on Food, Water, Sustainable Energy an	d He	altho	are Se	ctors and			
		KITS 25 Technology Missions)							
C	Commo		Η	ours	per				
Л.	Course	Course Title		Wee	Credits				
NO.	Code	L	Т	Р					
	Theory Cou	rses and Half Semester Project							
1	PEC	Professional Elective - 7 ¹	3	0	0	3			
2	PEC	Professional Elective - 8 ¹	3	0	0	3			
3	23ME2998	Half-Semester Project	4	15 Da	ays	8			
		Sub Total Credits for Th	eory	y Co	urses	14			
	Full Semeste	er Project							
4	23ME2999	Full-Semester Project	9	90 Da	ays	14			
		Sub Total Cred	its fo	or Pr	oject	14			
		Total				14			

¹Professional Electives 7 & 8 are applicable only for students who opt for Half Semester project.

PERCENTAGE CREDITS DISTRIBUTION SEMESTER WISE

			% Credits Contribution					
SEMESTER	Credits	MOOC Credits	Theory	Laboratory				
Ι	20	-	65.00	35.00				
II	20	2	65.00	35.00				
III	21	2	76.19	23.81				
IV	22	1	68.18	31.82				
V	22	-	86.36	13.64				
VI	21	-	85.71	14.29				
VII	20	-	90.00	10.00				
VIII	14	-	0.00	100.00				
Total	160	5	67.60	32.40				

B. Tech. Mechanical Engineering with Specialization in Artificial Intelligence – 2022 Batch <u>COURSE STRUCTURE</u>

S.	Course		Course	No of	Credits	Total
No.	Code	Course Title	Component	Courses	for Course	Credits
1	22ME2001	Industrial Applications of AI Techniques	PE	1	3	3
2	22ME2002	Industrial Applications of AI Techniques Laboratory	Laboratory	1	2	2
3	22ME2996	Project for AI	Р	1	6	6
4		MOOC Course		3	1	3
5	22ME2901	Industry Certification Course -	I*	1	2	2
6	22ME2902	Industry Certification Course -	II*	1	2	2
					Total	18

*Industry Certification Course I & II are Common to Electrical Vehicle and 3D Printing Specializations as well.

B. Tech. (Mechanical Engineering) with Specialization in Electric Vehicles / Artificial Intelligence and Machine Learning / Cyber Physical Systems -- 2023 Batch

Curriculum Components					
S.	Curriculum Component	Credits			
No.					
1.	Theory and Lab Courses	5			
2.	Project	6			
3.	Online / MOOC Course	3			
4.	Industry Certification Courses	4			
	Total	18			

B.Tech. Mechanical Engineering (2023 Batch) (Specialization in Electric Vehicles)							
S. No.	Course Code	Course Title	Course	No of Courses	Credits	lits r rse Total Credits	
			Component		for Course		
1	21ME2015	Design of Electrical Vehicles and Battery Management	PE	1	3	3	
2	21ME2016	Electrical Vehicles Laboratory	Laboratory	1	2	2	
3	23ME2998	Project for EV	Р	1	6	6	
4		MOOC Course		3	1	3	
5	23ME2901	Industry Certification Course - I*		1	2	Λ	
6	23ME2902	Industry Certification Course -	II*	1	2	4	
					Total	18	

B.Tech. Mechanical Engineering (2023 Batch) (Specialization in Artificial Intelligence and Machine Learning)

S. No.	Course Code	Course Title	Course	No of Courses	Credits	Total	
			Component		for Course	Credits	
1	22ME2001	Industrial Applications of AI Techniques	PE	1	3	3	
2	22ME2002	Industrial Applications of AI Techniques Laboratory	Laboratory	1	2	2	
3	23ME2997	Project for AI&ML	Р	1	6	6	
4		MOOC Course		3	1	3	
5	23ME2901	Industry Certification Course - I*		1	2	4	
6	23ME2902	Industry Certification Course -	II*	1	2	4	
Total						18	
B.Tech. Mechanical Engineering (2023 Batch) (Specialization in Cyber Physical Systems)							
S. No.	Course Code	Course Title	Course Component	No of Courses	Credits for Course	Total Credits	

1	23ME2053	Cyber-Physical System Application Domains and Foundations	PE	1	3	3
2	23ME2054	Cyber-Physical System Laboratory	Laboratory	1	2	2
3	23ME2996	Project for AI	Р	1	6	6
4		MOOC Course		3	1	3
5	23ME2901	Industry Certification Course - I*		1	2	4
6	23ME2902	Industry Certification Course - II*		1	2	4
					Total	18
*Industry Certification Course I & II are Common to All specializations.						