



REGULATIONS 2019
FLEXIBLE CHOICE BASED CREDIT SYSTEM
DEPARTMENT OF MECHANICAL ENGINEERING
B.E. Mechanical Engineering
CURRICULUM

S.No	Remarks	Category	Course Code R2024	Course Code R2019	Course Title	Prerequisite	Theory Credits	Practical Credits	Total Credits	CGPA / Non - CGPA	Course Type
1	Exempted for LE , Any 1 for Regular	HS	SH1101	19EN101	Communicative English	-	3	1	4	CGPA	TIP (6 Expts)
2	Exempted for LE , Any 1 for Regular	HS	SH1106	19EN106	English for Engineers	-	3	1	4	CGPA	TIP (6 Expts)
3	Exempted for LE, Option 1 for Regular	HS	NA	19EN102	Technical English	-	3	1	4	CGPA	TIP (6 Expts)
4	Exempted for LE, Option 2 for Regular	HS	SH1107	19EN107	Technical Writing and Presentation	-	0	2	2	CGPA	Practical (10 Expts)
5	Exempted for LE, Option 2 for Regular	HS	SH1105	19EN105	Public Speaking	-	0	3	3	CGPA	Practical (10 Expts)
6		HS	NA	19MS152	Total Quality Management	-	3	0	3	CGPA	Theory
7	Exempted for LE	HS	SH7101	22HS101	தமிழர் மரபு/ Heritage of Tamils	-	1	0	1	CGPA	Theory (Int Only)
8	Exempted for LE	HS	SH7102	22HS102	தமிழரும் தொழில்நுட்பமும்/ Tamils and Technology	-	1	0	1	CGPA	Theory (Int Only)
9	Exempted for LE	BS	SH2201	19MA201	Calculus and Matrix Algebra	-	4	0	4	CGPA	Theory
10		BS	SH2211	19MA211	Statistics and Numerical Methods	-	3	1	4	CGPA	TIP (6 Expts)
11	Exempted for LE , Any 1 for Regular	BS	NA	19MA205	Differential Equations and Laplace Transforms	19MA201	4	0	4	CGPA	Theory
12	Exempted for LE , Any 1 for Regular	BS	SH2224	19MA224	Transforms and Differential Equations	-	4	0	4	CGPA	Theory
13	Exempted for LE	BS	NA	19PH202	Fundamentals of Engineering Physics	-	3	1	4	CGPA	TIP (6 Expts)
14	Exempted for LE	BS	SH3211	19PH211	Materials Science	-	3	1	4	CGPA	TIP (6 Expts)
15	Exempted for LE	BS	SH4208	19CY208	Basic Engineering Chemistry	-	3	1	4	CGPA	TIP (6 Expts)
16	Exempted for LE	ES	NA	19CS301	Problem Solving and Python Programming	-	3	1	4	CGPA	TIP (6 Expts)
17	Exempted for LE, Option 1 for Regular	ES	NA	19ME301	Engineering Graphics	-	3	2	5	CGPA	TIP (10 Expts)
18	Exempted for LE, Option 2 for Regular	ES	ME0309	19ME309	Engineering Drawing and Visualisation	-	3	1	4	CGPA	TIP (6 Expts)
19	Exempted for LE, Option 2 for Regular	ES	ME0310	19ME310	Engineering Practices Lab	-	0	1	1	CGPA	Practical (6 Expts)
20	Exempted for LE , Any 1 for Regular	ES	NA	19ME303	Engineering Mechanics for Mechanical Engineers	-	4	1	5	CGPA	TIP (6 Expts)
21	Exempted for LE , Any 1 for Regular	ES	ME0311	19ME311	Engineering Mechanics	-	4	0	4	CGPA	Theory
22	Any 1	ES	NA	19ME304	Strength of Materials for Mechanical Engineers	-	4	1	5	CGPA	TIP (6 Expts)

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23	Any 1	ES	ME0312	19ME312	Mechanics of Solids	-	3	1	4	CGPA	TIP (6 Expts)
24		ES	ME0305	19ME305	Fluid Mechanics and Machinery	-	3	1	4	CGPA	TIP (6 Expts)
25	Exempted for LE	ES	EC2306	19EE306	Basic Electrical, Electronics and Instrumentation Engineering	-	2	1	3	CGPA	TIP (6 Expts)
26		ES	EC2311	19EE311	Electrical Drives and Control	-	3	0	3	CGPA	Theory
27	Any 1	PC	NA	19ME401	Engineering Thermodynamics	-	3	1	4	CGPA	TIP (6 Expts)
28	Any 1	PC	ME0414	19ME414	Engineering Thermodynamics for Mechanical Engineers	-	4	0	4	CGPA	Theory
29		PC	ME0405	19ME405	Thermal Engineering	19ME414 / ME0414 / 19ME401	3	1	4	CGPA	TIP (6 Expts)
30		PC	ME0406	19ME406	Heat and Mass Transfer	19ME414 / ME0414 / 19ME401	4	1	5	CGPA	TIP (6 Expts)
31	Any 1	PC	NA	19ME413	Power Plant Engineering	-	3	1	4	CGPA	TIP (6 Expts)
32	Any 1	PC	ME0415	19ME415	Power Generation Engineering	-	4	0	4	CGPA	Theory
33		PC	ME0402	19ME402	Manufacturing Technology I	-	3	1	4	CGPA	TIP (6 Expts)
34		PC	ME0404	19ME404	Manufacturing Technology II	19ME402 / ME0402	3	1	4	CGPA	TIP (6 Expts)
35		PC	NA	19ME403	Kinematics of Machines	-	3	1	4	CGPA	TIP (6 Expts)
36		PC	NA	19ME409	Dynamics of Machines	19ME403	3	1	4	CGPA	TIP (6 Expts)
37		PC	ME0407	19ME407	Design of Machine Elements	19ME312 / ME0312 / 19ME304	3	1	4	CGPA	TIP (6 Expts)
38		PC	ME0408	19ME408	Metrology and Measurements	-	3	1	4	CGPA	TIP (6 Expts)
39		PC	NA	19ME410	Design of Transmission Systems	19ME407	3	1	4	CGPA	TIP (6 Expts)
40	Any 1	PC	NA	19ME412	Mechatronics	-	3	1	4	CGPA	TIP (6 Expts)
41	Any 1	PC	ME0416	19ME416	Mechatronics and IoT	-	3	1	4	CGPA	TIP (6 Expts)
42		PC	ME0411	19ME411	Finite Element Analysis	19ME312 / ME0312 / 19ME304	4	1	5	CGPA	TIP (6 Expts)
43		PE(Honours)	ME0534	19ME534	Fundamentals of 3D Printing Technologies	-	3	0	3	CGPA	Theory
44		PE(Honours)	ME0535	19ME535	Reverse Engineering and CAD Modelling	19ME534/ ME0534	3	1	4	CGPA	TIP (6 Expts)
45		PE(Honours)	ME0536	19ME536	Design for 3D Printing	19ME534, ME0534	3	1	4	CGPA	TIP (6 Expts)
46		PE(Honours)	ME0537	19ME537	3D Printing Machines and Systems	19ME534, ME0535	3	0	3	CGPA	Theory
47		PE(Honours)	ME0538	19ME538	Materials for 3D Printing	19ME534, ME0534	3	0	3	CGPA	Theory
48		PE(Honours)	ME0539	19ME539	3D Printing for Medical Applications	19ME534, ME0534	3	1	4	CGPA	TIP (6 Expts)
49		PE	ME0540	19ME540	Hybrid and Electric Vehicle Technology	-	3	0	3	CGPA	Theory
50		PE	ME0542	19ME542	Smart Mobility and Intelligent Vehicles	-	3	0	3	CGPA	Theory

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51		PE	ME0541	19ME541	Automotive Materials, Components, Design and Testing	-	2	1	3	CGPA	TIP (6 Expts)
52		PE	ME0542	19ME542	Smart Mobility and Intelligent Vehicles	-	3	0	3	CGPA	Theory
53		PE	ME0543	19ME543	CAE and CFD Approach in Future Mobility	-	2	1	3	CGPA	TIP (6 Expts)
54		PE	ME0544	19ME544	Thermal Management of Batteries	-	3	0	3	CGPA	Theory
55		PE	ME0545	19ME545	Vehicle Health Monitoring, Maintenance and Safety	-	3	0	3	CGPA	Theory
56		PE	ME0546	19ME546	Value Engineering	-	3	0	3	CGPA	Theory
57		PE	ME0521	19ME521	Computer Integrated Manufacturing Systems	-	2	1	3	CGPA	TIP (6 Expts)
58		PE	ME0547	19ME547	Design For X	-	3	0	3	CGPA	Theory
59		PE	ME0548	19ME548	Product Life Cycle Management	-	3	0	3	CGPA	Theory
60		PE	ME0549	19ME549	Ergonomics in Design	-	3	0	3	CGPA	Theory
61		PE	ME0550	19ME550	New Product Development	-	3	0	3	CGPA	Theory
62		PE	ME0551	19ME551	Digital Manufacturing and IoT	-	2	1	3	CGPA	TIP (6 Expts)
63		PE	ME0552	19ME552	Lean Manufacturing	-	3	0	3	CGPA	Theory
64		PE	ME0553	19ME553	Modern Robotics	-	2	1	3	CGPA	TIP (6 Expts)
65		PE	ME0554	19ME554	Green Manufacturing Design and Practices	-	3	0	3	CGPA	Theory
66		PE	ME0555	19ME555	Environment Sustainability and Impact Assessment	-	3	0	3	CGPA	Theory
67		PE	ME0556	19ME556	Energy Saving Machinery and Components	-	3	0	3	CGPA	Theory
68		PE	ME0557	19ME557	Optimization Techniques	-	4	0	4	CGPA	Theory
69		PE	ME0558	19ME558	Statistical Quality Control	-	4	0	4	CGPA	Theory
70		PE	ME0559	19ME559	Quality Audit System	-	3	0	3	CGPA	Theory
71		PE	ME0560	19ME560	Operations and Inventory Management	-	3	0	3	CGPA	Theory
72		PE	ME0561	19ME561	Reliability Engineering	-	3	0	3	CGPA	Theory
73		PE	ME0562	19ME562	Discrete Event System Simulation	-	3	0	3	CGPA	Theory
74	Any 1	PE	NA	19ME511	Automobile Engineering	-	2	1	3	CGPA	TIP (6 Expts)
75	Any 1	PE	ME0563	19ME563	Automotive Engineering	-	3	0	3	CGPA	Theory
76	Any 1	PE	NA	19ME514	Refrigeration and Air Conditioning	19ME405	2	1	3	CGPA	TIP (6 Expts)
77	Any 1	PE	ME0564	19ME564	Refrigeration And Air Conditioning Technology	19ME405 / ME0405	3	0	3	CGPA	Theory
78	Any 1	PE	NA	19ME512	Turbo Machinery	19ME305	2	1	3	CGPA	TIP (6 Expts)
79	Any 1	PE	ME0565	19ME565	Turbo Machines	19ME305 / ME0305	3	0	3	CGPA	Theory

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80	Any 1	PE	NA	19ME513	Gas Dynamics and Space Propulsion	19ME401	2	1	3	CGPA	TIP (6 Expts)
81	Any 1	PE	ME0566	19ME566	Gas Dynamics and Jet Propulsion	19ME414 / ME0414 / 19ME401	3	0	3	CGPA	Theory
82	Any 1	PE	NA	19ME515	Advanced Internal Combustion Engineering	19ME405	2	1	3	CGPA	TIP (6 Expts)
83	Any 1	PE	ME0567	19ME567	Advanced Internal Combustion Engine Technology	19ME405 / ME0405	3	0	3	CGPA	Theory
84	Any 1	PE	ME0568	19ME568	Computational Fluid Dynamics and Heat Transfer	ME406 / 19ME406	3	0	3	CGPA	Theory
85		PE	ME0533	19ME533	3D Printing Processes	-	3	1	4	CGPA	TIP (6 Expts)
86	Any 1	PE	NA	19ME501	Composite Materials and Mechanics	-	2	1	3	CGPA	TIP (6 Expts)
87	Any 1	PE	ME0569	19ME569	Composite Materials Engineering	-	3	0	3	CGPA	Theory
88	Any 1	PE	NA	19ME520	Non Traditional Machining Processes	-	2	1	3	CGPA	TIP (6 Expts)
89	Any 1	PE	ME0570	19ME570	Non Conventional Machining Processes	-	3	0	3	CGPA	Theory
90		PE	ME0529	19ME529	Process Planning and Cost Estimation	-	2	1	3	CGPA	TIP (6 Expts)
91		PE	ME0531	19ME531	Intellectual Property Rights	-	2	1	3	CGPA	TIP (6 Expts)
92		PE	CS3410	19AI410	Introduction to Machine Learning	-	2	1	3	CGPA	TIP (6 Expts)
93		PE(Honours)	NA	19ME502	Design of Jigs, Fixtures and Press Tools	-	2	1	3	CGPA	TIP (6 Expts)
94		PE(Honours)	NA	19ME503	Design of Pressure Vessel and Piping	-	2	1	3	CGPA	TIP (6 Expts)
95		PE(Honours)	NA	19ME504	Mechanical Vibrations and Noise Control	19ME409	2	1	3	CGPA	TIP (6 Expts)
96		PE	NA	19ME505	Computer Aided Design	-	2	1	3	CGPA	TIP (6 Expts)
97		PE(Honours)	NA	19ME506	Computational Techniques for Fluid Dynamics	-	2	1	3	CGPA	TIP (6 Expts)
98		PE	NA	19ME507	Product Design and Development	-	2	1	3	CGPA	TIP (6 Expts)
99		PE(Honours)	NA	19ME508	Design Concepts in Engineering	-	2	1	3	CGPA	TIP (6 Expts)
100		PE(Honours)	NA	19ME509	Design of Heat Exchangers	19ME406	2	1	3	CGPA	TIP (6 Expts)
101		PE	NA	19ME510	Energy Conservation in Industries	-	2	1	3	CGPA	TIP (6 Expts)
102		PE	NA	19ME516	Additive Manufacturing Technology	-	2	1	3	CGPA	TIP (6 Expts)
103		PE	NA	19ME517	Advanced Metrology	-	2	1	3	CGPA	TIP (6 Expts)
104		PE	NA	19ME518	Casting and Welding Processes	-	2	1	3	CGPA	TIP (6 Expts)
105		PE	NA	19ME519	Engineering Materials and Metallurgy	19PH211	2	1	3	CGPA	TIP (6 Expts)
106		PE	NA	19ME522	Measurement and Controls	-	2	1	3	CGPA	TIP (6 Expts)
107		PE	NA	19ME523	Non Destructive Materials Evaluation	-	2	1	3	CGPA	TIP (6 Expts)

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108		PE	NA	19ME524	Sustainable and Green Manufacturing	-	2	1	3	CGPA	TIP (6 Expts)
109		PE	NA	19ME525	Production, Planning and Control	-	2	1	3	CGPA	TIP (6 Expts)
110		PE	NA	19ME526	Quality Control and Reliability Engineering	-	2	1	3	CGPA	TIP (6 Expts)
111		PE	NA	19ME527	Hydraulics and Pneumatics	-	2	1	3	CGPA	TIP (6 Expts)
112		PE	NA	19ME530	Machine Vision	-	2	1	3	CGPA	TIP (6 Expts)
113		PE	NA	19ME532	Entrepreneurship Development	-	2	1	3	CGPA	TIP (6 Expts)
114		PE	ME0571	19ME571	Advanced Solid Surface Design and Simulation Technique	-	0	3	3	CGPA	Practical (10 Expts)
115		OE	XXXXXX	19XXXXX	Open Electives	-	0	0	0	CGPA	Theory
116		OE	XXXXXX	19XXXXX	Online Courses	-	0	0	0	CGPA	Experiential Learning
117		EEC	ME0701	19ME701	Design and Fabrication Project	-	0	2	2	CGPA	Practical (10 Expts)
118		EEC	ME0702	19ME702	Project Work Phase I	-	0	2	2	CGPA	Project (Int Only)
119		EEC	ME0703	19ME703	Project Work Phase II	-	0	6	6	CGPA	Project
120	Any 1	EEC	NA	19EY701	Softskills	-	0	1	1	CGPA	Practical (6 Expts)
121	Any 1	EEC	SH6708	19EY708	Career Development Skills	NIL	1	0	1	CGPA	Theory (Int Only)
122	Any 1	EEC	NA	19EY702	Creative Skills for Communication	-	0	1	1	CGPA	Practical (6 Expts)
123	Any 1	EEC	SH6709	19EY709	Reasoning Ability	NIL	1	0	1	CGPA	Theory (Int Only)
124	Option 1	EEC	NA	19EY703	System of Numerical and Logical Terminologies	-	0	1	1	CGPA	Practical (6 Expts)
125	Option 1	EEC	NA	19EY704	Advanced Quantitative and Logical Reasoning	-	0	1	1	CGPA	Practical (6 Expts)
126	Option 2	EEC	SH6710	19EY710	Quantitative Ability I	NIL	1	0	1	CGPA	Theory (Int Only)
127	Option 2	EEC	SH6711	19EY711	Quantitative Ability II	SH6710 /19EY710	1	0	1	CGPA	Theory (Int Only)
128	Any 1	EEC	NA	19EY705	Employment Enhancement Skills	-	0	1	1	CGPA	Practical (6 Expts)
129	Any 1	EEC	SH6712	19EY712	Employment Enrichment Skills	19EY702 / 19EY709 / SH6709	1	0	1	CGPA	Theory (Int Only)
130	Any 1	EEC	NA	19EY706	Company Specific Assessments For Employability	-	0	1	1	CGPA	Practical (6 Expts)
131	Any 1	EEC	SH6713	19EY713	Placement Readiness Assessment	19EY704 / 19EY711/SH 6711	1	0	1	CGPA	Theory (Int Only)
132		EEC	SH6707	19EY707	Paper Publication	-	0	0	1	NON-CGPA	Experiential Learning (Int Only)
133		MC	NA	19MC801	Professional Ethics	-	0	0	0	NON - CGPA	Theory (Int Only)
134		MC	NA	19MC802	Environmental Science	-	0	0	0	CGPA	Theory (Int Only)
135		MC	NA	19MC803	Constitution of India	-	0	0	0	CGPA	Theory (Int Only)

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136		MC	NA	19MC804	Internship/Entrepreneurship/Consultancy	-	0	0	2	NON-CGPA	Experiential Learning (Int Only)
137		MC	NA	19MC805	Inplant Training	-	0	0	1	Non - CGPA	Experiential Learning (Int Only)
138	Any 1	MC	SH6803	19MC807	National Service Scheme	-	0	0	0	NON-CGPA	Experiential Learning (Int Only)
139	Any 1	MC	SH8807	19MC808	National Sports Organization	-	0	0	0	NON-CGPA	Experiential Learning (Int Only)
140	Any 1	MC	SH8808	19MC809	Youth Red Cross	-	0	0	0	NON-CGPA	Experiential Learning (Int Only)

Category	BATCH: 2021- 2025		BATCH: 2022- 2026 and 2023-2027	
	Credits to be Earned (Regular)	Credits to be Earned (LE)	Credits to be Earned (Regular)	Credits to be Earned (LE)
Humanities and Science	11	3	13	3
Basic Science	24	4	24	4
Engineering Science	26	12	26	12
Professional Core	54	54	54	54
Professional Electives	21	21	21	21
Open Electives	12	12	12	12
Employability Enhancement Courses	16	16	16	16
Mandatory Courses	3	3	3	3
TOTAL	167	125	169	125