

Government College of Engineering, Karad

(an Autonomous Institute of Government of Maharashtra)

Scheme of Instructions and Syllabus

Scheme of Instructions for First Year M. Tech. course in Design

Engineering Semester – I (w.e.f.: AY 2023-24)

Sr.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs / week	Credits	Exam Scheme			
									MSE	ISE / CA	ESE	TOTAL
1.	PCC	DE 2101	Vibrations and Acoustics	3	-	-	3	3	20	20	60	100
2.	PCC	DE 2102	Stress Analysis	3	-	-	3	3	20	20	60	100
3.	PEC	DE 21*3	Program Elective - I	3	-	-	3	3	20	20	60	100
4.	PEC	DE 21*4	Program Elective - II	3	-	-	3	3	20	20	60	100
5.	MDC	RM2105	Research Methodology	2	-	-	2	2	20	20	60	100
6.	PCC	DE 2106	Lab Practice - I	-	-	4	4	2	-	25	25	50
7.	PEC	DE 2107	Lab Practice- II	-	-	4	4	2	-	25	25	50
8.	OEC	OE 21*8	Open Elective	3	-	-	3	3	20	20	60	100
9.	MNC	AU 21*9	Audit Course - I	2	-	-	2	-		-	-	-
			Total	19	-	8	27	21	120	170	410	700

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE/CA- In Semester Evaluation/Continuous Assessment

ESE- End Semester Examination (For Laboratory End Semester performance)

Program Elective / Audit Course / Open Elective (*list is provided at the end of structure*)

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Scheme of Instructions for First Year M. Tech. course in Design Engineering

Semester – II (w.e.f.: AY 2023 - 24)

Sr.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs / week	Credits	Exam Scheme			
									MSE	ISE/ CA	ESE	TOTAL
1.	PCC	DE2201	Finite Element Analysis	3	-	-	3	3	20	20	60	100
2.	PCC	DE2202	Computer Aided Design	3	-	-	3	3	20	20	60	100
3.	PEC	DE22*3	Program Elective - III	3	-	-	3	3	20	20	60	100
4.	PEC	DE22*4	Program Elective – IV	3	-	-	3	3	20	20	60	100
5.	PEC	DE22*5	Program Elective - V	3	-	-	3	3	20	20	60	100
6.	PCC	DE2206	Lab Practice - III	-	-	4	4	2	-	25	25	50
7.	PEC	DE2207	Lab Practice - IV	-	-	4	4	2	-	25	25	50
8.	P / S/ IT	DE2208	Seminar on Pre-Dissertation work	-	-	4	4	2	-	50	50	100
9.	MNC	AU22*9	Audit Course – II	2	-	-	2	-	-	-	-	-
			Total	17	-	12	29	21		110	410	700

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE/CA- In Semester Evaluation/Continuous Assessment

ESE- End Semester Examination (For Laboratory End Semester performance)

Program Elective / Audit Course / Open Elective (*list is provided at the end of structure*)

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Semester – III (w.e.f.: AY 2024 -25)

Sr.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs / week	Credits	Exam Scheme			
									MSE	TA / CA	ESE	TOTAL
1.	P / S / IT	DE 2301	Dissertation - I	-	-	20	20	7	-	100	100	200
2.	PEC	DE 2302	Online Course (8-12 Week)	-	-	-	-	3	-	-	-	-
			Total	-	-	20	20	10	-	100	100	200

TA/CA- Teacher Assessment / Continuous Assessment

ESE- End Semester Examination (For Laboratory: End Semester Performance)

Note:

1. DE2302 will be decided by respective Guide in Consultation with Program Coordinator. Course is mandatory is for student
2. In Case, the course offered online are not completely relevant with the topic of dissertation then any course suggested by NASSCOM on recent technologies can be opted by candidate.

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Semester –IV (w.e.f.: AY 2024 -25)

Sr.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs / week	Credits	Exam Scheme			
									MSE	TA / CA	ESE	TOTAL
1.	P / S / IT	DE2401	Dissertation - II	-	-	32	32	16	-	100	200	300
			Total	-	-	32	32	16	-	100	200	300

TA/CA- Teacher Assessment / Continuous Assessment

ESE- End Semester Examination (For Laboratory: End Semester Performance)

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Scheme of Instructions and Syllabus

Scheme of Instructions for First Year M. Tech. course in Production Engineering

List of Program Elective Courses

Semester - I		Semester - II		
Program Elective - I	Program Elective - II	Program Elective - III	Program Elective - VI	Program Elective - V
DE2113: Advanced Mathematical Methods in Mechanical Design	DE2114: Advance d Machine Design	DE2213: Mechatronics and Systems Control	DE2214: Nonlinear and Random Vibrations	DE2215: Optimization Techniques
DE2123: Experimental Stress Analysis	DE2124: Fatigue, Fracture and Failure Analysis	DE2223: Mechanisms and Robotics	DE2124: Condition Monitoring	DE2225: Materials and Composites
DE2133: Mathematic al Methods for Mechanics and Dynamics	DE2134: Tribology	DE2233: Rapi Prototypin g & 3D Printing	DE2234: Synthesis of Mechanisms	DE2235: Automotiv e System Design
DE2143: Reliability Engineering	DE2144: MEMS and Nanotechnology	DE2243: Internet of Things & Machine Learning	DE2244: Vehicle Dynamics	DE2245: Industrial Product Design

List of Open Electives and Audit Courses

Semester - I		Semester - II
Open Electives	Audit Course - I	Audit Course - II
OE2118: Business Analytics	AU2119: Research Paper Writing	AU2219: Constitution of India
OE2128: Industrial Safety	AU2129: Disaster Management	AU2229: Pedagogy Studies
OE2138: Operation Research	AU2139: Sanskrit for Technical Knowledge	AU2239: Stress Management by Yoga
OE2148: Cost Management of Engineering Projects	AU2149: Value Education	AU2249: Personality Development through Life Enlightenment Skills
OE2158: Composite Materials		
OE2168: Waste to Energy		

