Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: M.Tech. Design Engineering

Scheme of Instructions: First Year M. Tech. in Design Engineering

Semester – I (w.e.f. 2024-25)

Sr.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs / week	Credits	Exam Scheme			
									MSE	ISE	ESE	TOTAL
1.	PCC	DE 2102	Stress Analysis	3	-	-	3	3	20	20	60	100
2.	PEC	DE 21*3	Program Elective - I	3	-	-	3	3	20	20	60	100
3.	PEC	DE 21*4	Program Elective - II	3	-	-	3	3	20	20	60	100
4.	MDC	RM2105	Research Methodology	2	-	-	2	2	20	20	60	100
5.	PCC	DE 2106	Lab Practice - I	-	-	4	4	2	-	25	25	50
6.	PEC	DE 2107	Lab Practice- II	-	-	4	4	2	-	25	25	50
7.	OEC	OE 21*8	Open Elective	3	-	-	3	3	20	20	60	100
8.	MNC	AU 21*9	Audit Course - I	2	-	-	2	-		-	-	-
9.	PCC	DE 2110	Finite Element Analysis	3	-	-	3	3	20	20	60	100
			Total	**19**	**-**	**8**	**27**	**21**	**120**	**170**	**410**	**700**

L- Lecture	T-Tutorial	P-Practical

MSE- Mid Semester Examination	ISE/CA- In Semester Evaluation

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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Programme: M.Tech. Design Engineering

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Sr.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs / week	Credits	Exam Scheme			
									MSE	ISE	ESE	TOTAL
1.	PCC	DE2202	Computer Aided Design	3	-	-	3	3	20	20	60	**100**
2.	PEC	DE22*3	Program Elective - III	3	-	-	3	3	20	20	60	**100**
3.	PEC	DE22*4	Program Elective – IV	3	-	-	3	3	20	20	60	**100**
4.	PEC	DE22*5	Program Elective - V	3	-	-	3	3	20	20	60	**100**
5.	PCC	DE2206	Lab Practice - III	-	-	4	4	2	-	25	25	**50**
6.	PEC	DE2207	Lab Practice - IV	-	-	4	4	2	-	25	25	**50**
7.	P / S/ IT	DE2208	Seminar on Pre-Dissertation work	-	-	4	4	2	-	50	50	**100**
8.	MNC	AU22*9	Audit Course – II	2	-	-	2	-	-	-	-	**-**
9.	PCC	DE2210	Vibrations and Acoustics	3	-	-	3	3	20	20	60	**100**
			Total	**17**	**-**	**12**	**29**	**21**		**110**	**410**	**700**

L- Lecture   T-Tutorial   P-Practical

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

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: M.Tech. Design Engineering

Scheme of Instructions: First Year M. Tech. in Design Engineering

Semester – II (w.e.f. 2024-25)

Sr.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs / week	Credits	Exam Scheme			
									MSE	ISE	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**

L- Lecture   T-Tutorial   P-Practical

MSE- Mid Semester Examination   ISE- In Semester Evaluation

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.*

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: M.Tech. Design Engineering

Scheme of Instructions: First Year M. Tech. in Design Engineering

Semester – II (w.e.f. 2024-25)

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

L- Lecture   T-Tutorial   P-Practical

MSE- Mid Semester Examination   ISE- In Semester Evaluation

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

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:** Advanced 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:** Prototypin & D g 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			