Government College of Engineering, Karad

SCHEME OF INSTRUCTION

Programme: Mechanical Engineering

Scheme of Instructions: Final Year B. Tech. in Mechanical Engineering

Semester – VII (wef AY 2024-25)

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Course Credits	EXAM SCHEME				
									CT-1	CT-2	TA/CA	ESE	TOTAL
1	PEC	ME27*2	Elective – III	3	-	-	3	3	15	15	10	60	100
2	PEC	ME27*3	Elective -IV	3	-	-	3	3	15	15	10	60	100
3	PCC	ME2704	Noise and Vibration	3	-	-	3	3	15	15	10	60	100
4	PCC	ME2705	Machine Design – II	3	-	-	3	3	15	15	10	60	100
5	PEC	ME27*7	Elective – III Lab	-	-	2	2	1	-	-	50	25	75
6	PCC	ME2708	Noise and Vibration Lab	-	-	2	2	1	-	-	25	25	50
7	P/S/IT	ME2709	Seminar	-	-	2	2	1	-	-	50	25	75
8	P/S/IT	ME2710	Industrial Training & Technical Presentation	-	1	-	1	1	-	-	50	-	50
9	Audit	ME27*5	Audit Course- Lab I	-	-	4	4	Audit	-	-	-	-	-
10	OEC	ME2711	Finite Element Analysis	3	-	-	3	3	15	15	10	60	100
11	OEC	ME2714	Finite Element Analysis Lab	-	-	2	2	1	-	-	50	-	50
			Total	**15**	**01**	**12**	**28**	**20**	**75**	**75**	**275**	**375**	**800**

L- Lecture T-Tutorial P-Practical

CT1- Class Test 1 TA/CA- Teacher Assessment/Continuous Assessment

CT2- Class Test 2 ESE- End Semester Examination (For Laboratory End Semester performance)

Course Category	HSMC (Hum., Soc. Sc, Mgmt.)	BSC (Basic Sc.)	ESC (Engg. Sc.)	PCC (Programme Core courses)	PEC (Programme Elective courses)	OEC (Open Elective courses from other discipline)	MCC (Mandatory Courses)	Project / Seminar / Industrial Training
Credits	--	--	--	08	07	03	--	02
Cumulative Sum	11	21	24	53	14	14	Yes	05

PROGRESSIVE TOTAL CREDITS: 122+21 = 142

Government College of Engineering, Karad

SCHEME OF INSTRUCTION

Programme: Mechanical Engineering

Scheme of Instructions: Final Year B. Tech. in Mechanical Engineering (ACADEMIC MODE)

Semester – VIII (wef AY 2024-25)

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Course Credits	EXAM SCHEME				
									CT-1	CT-2	TA/CA	ESE	TOTAL
1	PEC	ME28*2	Elective – V	3	-	-	3	3	15	15	10	60	100
2	PEC	ME28*6	Elective – V Lab	-	-	2	2	1	-	-	50	50	100
3	P/S/IT	ME2807	Project	-	-	20	20	10	-	-	200	200	400
4	Audit	ME28*8	Audit Course- Lab II	-	-	4	4	Audit	-	-	-	-	-
5	OEC	ME2809	Mechatronics	3	-	-	3	3	15	15	10	60	100
6	OEC	ME2810	Mechatronics Lab	-	-	2	2	1	-	-	50	-	50
			Total	**06**	**00**	**28**	**34**	**18**	**30**	**30**	**320**	**370**	**750**

L- Lecture T-Tutorial P-Practical

CT1- Class Test 1 TA/CA- Teacher Assessment/Continuous Assessment

CT2- Class Test 2 ESE- End Semester Examination (For Laboratory End Semester performance)

Course Category	HSMC (Hum., Soc. Sc, Mgmt.)	BSC (Basic Sc.)	ESC (Engg. Sc.)	PCC (Programme Core courses)	PEC (Programme Elective courses)	OEC (Open Elective courses from other discipline)	MCC (Mandatory Courses)	Project / Seminar / Industrial Training
Credits	00	--	--	---	04	04	--	10
Cumulative Sum	11	21	24	53	18	18	Yes	15

PROGRESSIVE TOTAL CREDITS: 142+18= 160

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Mechanical Engineering

Scheme of Instructions: Final Year B. Tech. in Mechanical Engineering (INDUSTRY MODE)

Semester – VIII (wef AY 2024-25)

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Course Credits	EXAM SCHEME				
									CT-1	CT-2	TA/CA	ESE	TOTAL
1	OEC	ME2803	(MOOC – 1)*	-	-	-	-	4	-	-	-	100	100
2	PEC	ME2804	(MOOC – 2)*	-	-	-	-	4	-	-	-	100	100
3	P/S/IT	ME2808	Project	-	-	-	-	10	-	-	250	300	550
			Total	**00**	**00**	**00**	**00**	**18**	**-**	**-**	**250**	**500**	**750**

L- Lecture T-Tutorial P-Practical

CT1- Class Test 1 TA/CA- Teacher Assessment/Continuous Assessment

CT2- Class Test 2 ESE- End Semester Examination (For Laboratory End Semester performance)

Course Category	HSMC (Hum., Soc. Sc, Mgmt.)	BSC (Basic Sc.)	ESC (Engg. Sc.)	PCC (Programme Core courses)	PEC (Programme Elective courses)	OEC (Open Elective courses from other discipline)	MCC (Mandatory Courses)	Project / Seminar / Industrial Training	MOOCS
Credits	00	--	--	---	-	--	--	10	08
Cumulative Sum	10	21	24	53	18	14	Yes	15	08

PROGRESSIVE TOTAL CREDITS: 142+18= 160

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1. MOOC Courses- Students are permitted to register online courses available on different online platforms with prior approval of project guide. Duration of course shall be minimum 8 weeks, maximum 12 weeks only. Grade will be accepted as given by course offering agency.
2. If MOOC course(s) is not, available, the department will offer the course against MOOC and will be assessed as per regular theory mode. The student has to study
the course(s) in self-learning mode.
3. If, the assessment of the MOOC course(s) offered by another agency is delayed, the department shall assess the same. The mode of assessment shall be included in the note. Assignment marks shall also be included in the final assessment.

List of PROGRAM ELECTIVE courses:

Semester V		Semester VI		Semester VII				Semester VIII	
Elective – I (Theory and Lab)		**Elective – II**		**Elective – III (Theory and Lab)**		**Elective – IV**		**Elective – V (Theory and Lab)**	
ME2515	Non-Conventional Machining	ME2613	Additive Manufacturing	ME2712	Refrigeration & Air conditioning	ME2713	Total Quality Management	ME2812	MEMS and NEMS
ME2525	Industrial Automation	ME2623	Welding Technology	ME2722	Maintenance Engineering & Condition Monitoring	ME2723	Industrial Engineering	ME2822	Tribology
ME2535	Computational Fluid Dynamics	ME2633	Energy and Power Engineering	ME2732	Industrial Fluid Power	ME2733	Advanced Casting Technology	ME2832	Automobile Engineering
ME2519	Non-Conventional Machining lab			ME2717	Refrigeration & Air conditioning lab			ME2816	MEMS and NEMS lab
ME2529	Industrial Automation lab			ME2727	Maintenance Engineering & Condition Monitoring lab			ME2826	Tribology lab
ME2539	Computational Fluid Dynamics lab			ME2737	Industrial Fluid Power lab			ME2836	Automobile Engineering lab

COMMON INSTRUCTIONs

Departments shall suggest & execute

1. *Bridge courses* for the *Students Admitting to Direct Second year via Lateral Entry scheme in the III semester*. (Diploma students)
2. *Bridge courses* for the students who may be *Admitted in Autonomous mode from University mode*.
3. *MOOCs* for students adapting *Industry Mode* to fulfil the credit requirements. Copy of certificates / grade card shall be submitted to Controller of Examinations, GCE Karad through Program Coordinator prior to ESE.

	Audit Course Lab I	Audit Course Lab II
AIMLDS	**ME2715**: Foundations of Data Science and Machine Learning Lab	**ME2818:** Advanced AI Techniques and Applications Lab
AIOT	**ME2725:** AIoT Development Lab	**ME2828:** Advance AI and IoT Integration Lab
ARVR	**ME2735:** Immersive Game Development Lab	**ME2838:**Advanced ARVR Techniques and Applications Lab
SAP ERP	**ME2745:** ABAP Programming for SAP HANA Lab	**ME2848:** ABAP programming in Eclipse LAB
Electric vehicle Mechanical Perspective	**ME2755:** EV design and 3D Modeling lab	**ME2858:** EV design analysis and Simulation Lab
Electric vehicle Electrical Perspective	**ME2765**: : Foundation of Electrical Vehicle Lab	**ME2868:** Advanced Electrical Vehicle Lab
Image Processing	**ME2775:** Fundamentals of Image Processing Lab	**ME2878:** Advanced Image Processing Lab