

# 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 Production 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	ESE	TOTAL
1.	PCC	PE2101	Advanced Material & Manufacturing	3	-	-	3	3	20	20	60	<b>100</b>
2.	PCC	PE 2102	Metal Forming Technology	3	-	-	3	3	20	20	60	<b>100</b>
3.	PEC	PE 21*3	Program Elective - I	3	-	-	3	3	20	20	60	<b>100</b>
4.	PEC	PE 21*4	Program Elective - II	3	-	-	3	3	20	20	60	<b>100</b>
5.	MDC	RM 2105	Research Methodology	2	-	-	2	2	20	20	60	<b>100</b>
6.	PCC	PE 2106	Lab Practice - I	-	-	4	4	2		25	25	<b>50</b>
7.	PEC	PE 2107	Lab Practice - II	-	-	4	4	2		25	25	<b>50</b>
8.	OEC	OE 21*8	Open Elective	3	-	-	3	3	20	20	60	<b>100</b>
9.	MNC	AU 21*9	Audit Course - I	2	-	-	2	-	-	-	-	-
			<b>Total</b>	<b>19</b>	<b>-</b>	<b>8</b>	<b>27</b>	<b>21</b>	<b>120</b>	<b>170</b>	<b>410</b>	<b>700</b>

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE - 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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## Scheme of Instructions and Syllabus

Scheme of Instructions for First Year M. Tech. course in Production 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	ESE	TOTAL
1.	PCC	PE 2201	Advanced Casting Technology	3	-	-	3	3	20	20	60	<b>100</b>
2.	PCC	PE 2202	Production & Operations Management	3	-	-	3	3	20	20	60	<b>100</b>
3.	PEC	PE 22*3	Program Elective - III	3	-	-	3	3	20	20	60	<b>100</b>
4.	PEC	PE 22*4	Program Elective – IV	3	-	-	3	3	20	20	60	<b>100</b>
5.	PEC	PE 22*5	Program Elective - V	3	-	-	3	3	20	20	60	<b>100</b>
6.	PCC	PE 2206	Lab Practice - III	-	-	4	4	2	-	25	25	<b>50</b>
7.	PEC	PE 2207	Lab Practice - IV	-	-	4	4	2	-	25	25	<b>50</b>
8.	P / S/ IT	PE 2208	Seminar on Pre-Dissertation work	-	-	4	4	2	-	50	50	<b>100</b>
9.	MNC	AU 22*9	Audit Course - II	2	-	-	2	-	-	-	-	-
			<b>Total</b>	<b>17</b>	<b>-</b>	<b>12</b>	<b>29</b>	<b>21</b>	<b>100</b>	<b>200</b>	<b>400</b>	<b>700</b>

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE - 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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## Scheme of Instructions and Syllabus

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

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	ISE	ESE	TOTAL
1.	P / S / IT	PE 2301	Dissertation - I	-	-	14	14	07	-	100	100	<b>200</b>
2.	PEC	PE 2302**	MOOC online course (8-12 weeks)	-	-	-	-	03	-	-	-	-
			<b>Total</b>	-	-	<b>14</b>	<b>14</b>	<b>10</b>	-	<b>100</b>	<b>100</b>	<b>200</b>

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE/CA- In Semester Evaluation

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

\*\* PE2302 is mandatory and will be decided by respective Guide in consultation with Programme Head

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## Scheme of Instructions and Syllabus

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

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	ISE	ESE	TOTAL
1.	P / S / IT	PE 2401	Dissertation - II	-	-	32	32	16	-	100	200	<b>300</b>
			<b>Total</b>	-	-	<b>32</b>	<b>32</b>	<b>16</b>	-	<b>100</b>	<b>200</b>	<b>300</b>

TA/CA- Teacher Assessment

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

# Government College of Engineering, Karad

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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 - IV	Program Elective – V All NPTEL Courses
<b>PE 2113:</b> Advanced Machine Tool Design	<b>PE2114:</b> Mathematical Modeling and Simulation	<b>PE2213:</b> Computer Aided Engineering (CAE)	<b>PE2214:</b> Industrial Automation and Robotics	<b>PE2215:</b> Fundamentals of Surface Engineering: Mechanisms, Processes and Characterizations (Online Course)
<b>PE 2123:</b> Advanced Tooling and Die Design	<b>PE2124:</b> MEMS & Nanotechnology	<b>PE2223:</b> Noise and Vibration	<b>PE2124:</b> Automatic Control Engineering	<b>PE2225:</b> Mechanics of machining (Online Course)
<b>PE 2133:</b> Costing and Cost Control	<b>PE2134:</b> Supply Chain Management & Logistics	<b>PE2233:</b> Fabrication Engineering & Welding Technology	<b>PE2234:</b> Plastic Process & Die Design	<b>PE2235:</b> Processing of polymers and polymer composites (Online Course)
<b>PE2143:</b> Introduction to Mechanical Micro Machining	<b>PE2144:</b> Work System Design	<b>PE2243:</b> Condition Monitoring	<b>PE2244:</b> Product Life Cycle Management	<b>PE2245:</b> Advanced welding and joining technologies (Online Course)
<b>PE2153:</b> Quality Engineering for Manufacturing (Online Course)	<b>PE2154:</b> Precision Engineering and Lean Manufacturing (Online Course)	<b>PE2253:</b> Finite Element Method in Manufacturing (Online Course)	<b>PE2254:</b> Additive Manufacturing (Online Course)	<b>PE2255:</b> Surface engineering and nanomaterials (Online Course)

### List of Open Electives and Audit Courses

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