

## Mechanical

# Department of Mechanical Engineering

### DEPARTMENT VISION

**"CREATING NEED BASED, TECHNICALLY COMPETENT AND SOCIALLY RESPONSIBLE MECHANICAL ENGINEERS."**

### DEPARTMENT MISSION

- Equipping the students with necessary technical and intellectual capacity to cope up with the changing needs of the industry.
- Providing state of the art learning environment to produce a competent and skilled Mechanical engineer.
- Provide accessibility to latest trends and modern equipment's to face fast changing demand of industry and society.
- To inculcate ethical and leadership values in students this will transform them in to competent Mechanical engineers.

### The Program Educational Objectives (PEOs)

- **PEO-01** Provide conceptual and disciplined knowledge to solve broad based Mechanical engineering problems.
- **PEO-02** Address social, legal and cultural issues as a Mechanical engineer and provide sustainable and eco friendly solution for the same.
- **PEO-03** Practice their profession with modern engineering tools and effective communication skills.
- **PEO-04** Pursue their professional development through working effectively in team, continuous lifelong learning and adopting professional ethics.

### • Photograph of department

### About the Department :

- 1) Department has highly motivated faculties with good academic experience.
- 2) The department is well equipped with 10 laboratories.
- 3) Department is working on outcome base teaching-learning process.
- 4) Department has excellent Student-Teacher ratio as per AICTE Norms.
- 5) Department has excellent number of Placement.
- 6) Department provide collaborative initiative with Industry.

## Curriculum

Programme Code: ..... I – Scheme Diploma Programme in Mechanical Engineering												
II - Semester												
Weighted mean score	S. No. & (Rank No.) of Report	Industry Question naire S.No.	Course Title	Teaching Scheme/Week			Credits (L+T +P)	Examination Scheme				
				L	T	P		Theory		Practical		Grand Total
								ESE	PA	ESE	PA	
2.75	28 (23)	3	Applied Mathematics (AE, CH, ME, PT, FG)	4	2	-	6	70	30*	-	-	100
2.79 2.21	26(21) 35(30)	12	Applied Science Mech. Gp. (AE, ME, PT, FG, CE)	2	-	2	6	35	15*	25	25	150
			Physics					35	15*			
			Chemistry	2	-							
2.99	13(12)	5	Applied Mechanics (CE, CH, AE, ME, PT, FG)	3	2	2	7	70	30*	25	25	150
2.97	15(13)	6	Engineering Drawing (AE, ME, PT)	3	-	4	7	70	30*	25@	25	150
3.24	3 (2)	11	Mechanical Engg. Workshop (AE, ME)	-	-	4	4	-	-	50	50~ <sup>2</sup>	100
3.42	G2 (2)	37	Business Communication Using Computers (Common to all)	2\$	-	-	2	35\$	15	-	-	50
<b>Total</b>				<b>16</b>	<b>4</b>	<b>12</b>	<b>32</b>	<b>315</b>	<b>135</b>	<b>125</b>	<b>125</b>	<b>700</b>

(\$):Online Exam; (#):No theory Exam; (\*): Under the theory PA, Out of 30 marks, 10 marks are for micro-project assessment (5 marks each for Physics and Chemistry) to facilitate integration of COs and the remaining 20 marks is the average of 2 tests to be taken during the semester for the assessment of the cognitive domain LOs required for the attainment of the COs; (~<sup>2</sup>): For the courses having ONLY practical, the PA has two parts (i) practical part – 30 marks (60%) (ii) micro-project part– 20 marks (40%); @: with external examiner.

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II - Semester												
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				L	T	P		Theory		Practical		Grand Total
								ESE	PA	ESE	PA	
2.75	28 (23)	3	Applied Mathematics (AE, CH, ME, PT, FG)	4	2	-	6	70	30*	-	-	100
2.79 2.21	26(21) 35(30)	12	Applied Science Mech. Gp. (AE, ME, PT, FG, CE)	2	-	2	6	35	15*	25	25	150
			Physics					35	15*			
			Chemistry	2	-							
2.99	13(12)	5	Applied Mechanics (CE, CH, AE, ME, PT, FG)	3	2	2	7	70	30*	25	25	150
2.97	15(13)	6	Engineering Drawing (AE, ME, PT)	3	-	4	7	70	30*	25@	25	150
3.24	3 (2)	11	Mechanical Engg. Workshop (AE, ME)	-	-	4	4	-	-	50	50~ <sup>2</sup>	100
3.42	G2 (2)	37	Business Communication Using Computers (Common to all)	2\$	-	-	2	35\$	15	-	-	50
<b>Total</b>				<b>16</b>	<b>4</b>	<b>12</b>	<b>32</b>	<b>315</b>	<b>135</b>	<b>125</b>	<b>125</b>	<b>700</b>

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III - Semester												
Weighted mean score	S. No. & (Rank No.) of Report	Industry Questionnaire S.No.	Course Title	Teaching Scheme/Week			Credits (L+T+P)	Examination Scheme				
				L	T	P		Theory		Practical		Grand Total
								ESE	PA	ESE	PA	
2.79	25(21)	13	Strength of Materials (AE, FG, ME, PT)	3	2	2	7	70	30*	25	25	150
2.85	21 (17)	19	Thermal Engineering (ME& 3 <sup>rd</sup> Sem FG, PT)	3	-	2	5	70	30*	25	25	150
3.17	6(5)	7	Mechanical Working Drawing	4	-	4	8	70	30*	50	50	200
3.19	5(4)	24	Engineering Metrology	3	-	2	5	70	30*	25	25	150
2.65 2.54	30 (25) 31 (26)	8, 9	Basic Electrical and Electronics Engineering (AE, ME & II Sem PT, FG, PS)	4	-	2	6	70	30*	25	25	150
3.31	1(1)	12	Mechanical Engineering Materials	3\$	-	-	3	70\$	30*	-	-	100
<b>Total</b>				<b>20</b>	<b>2</b>	<b>12</b>	<b>34</b>	<b>420</b>	<b>180</b>	<b>150</b>	<b>150</b>	<b>900</b>

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IV - Semester												
Weighted mean score	S. No. & (Rank No.) of Report	Industry Questionnaire S.No.	Course Title	Teaching Scheme/Week			Credits (L+T+P)	Examination Scheme				
				L	T	P		Theory		Practical		Grand Total
								ESE	PA	ESE	PA	
3.48	5 (4)	24	Mechanical Engineering Measurements	3	-	2	5	70	30*	25	25	150
3.06	10 (9)	23	Fundamentals of Mechatronics	1#	-	2	3	-	-	25	25	50
2.78	27(22)	14	Theory of Machines (4 <sup>th</sup> Sem AE, ME & 3 <sup>rd</sup> Sem PT)	3	-	2	5	70	30*	25	25	150
2.96	16 (14)	21	Fluid Mechanics and Machinery	4	-	2	6	70	30*	25	25	150
3.14 2.83	7(6) 22(18)	15, 16, 27	Manufacturing Processes	3	-	2	5	70	30*	25	25	150
3.17	6 (5)	7	Computer Aided Drafting (4 <sup>th</sup> Sem ME, 3 <sup>rd</sup> Sem FG & 2 <sup>nd</sup> PS, AE)	-	-	2	2	-	-	25	25 <sup>~1</sup>	50
3.04 2.38 3.32	G6 (6) G9 (9) G3(3)	39 40 38	Entrepreneurship Development (Common to all)	2\$	-	2	4	50	-	25	25 <sup>~1</sup>	100
3.01	12 (11)	36	Environmental Technologies and Energy Management (4 <sup>th</sup> Sem ME, PT & 6 <sup>th</sup> Sem FG)	3	-	2	5	70	30*	25	25	150
<b>Total</b>				<b>19</b>	<b>0</b>	<b>16</b>	<b>35</b>	<b>400</b>	<b>150</b>	<b>200</b>	<b>200</b>	<b>950</b>

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**Note**

**a)** During Summer Break after IV semester (i.e. between IV and V Semester), Polytechnics would ensure mandatory placement of students for 6 weeks industrial training. Preferably, the industry where students would be placed should be large or medium scale, however if such industries are not available, then students can also be placed in small or very small industries but it should be relevant to the branch or discipline of engineering. **This training would be evaluated during V semester.**

**b)** The allotment of the group of students and orientation for industrial training shall be done before the end of IV semester.

**c)** Students should prepare report of training, which will be evaluated during V semester.

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V - Semester												
Weighted mean score	S. No. & (Rank No.) of Report	Industry Questionnaire S.No.	Course Title	Teaching Scheme/Week			Credits (L+T+P)	Examination Scheme				
				L	T	P		Theory		Practical		Grand Total
								ESE	PA	ESE	PA	
		MSBTE guidelines and industry feedback	Industrial Training (during summer break after IV semester)	-	-	6 <sup>^</sup>	6	-	-	75	75	150
2.38	33 (28)	30	Power Engineering and Refrigeration	3	-	2	5	70	30*	25	25	150
3.03 2.96	11 (10) 17(14)	17	Advanced Manufacturing Processes	3	-	2	5	70	30*	25	25	150
2.86	20 (16)	25	Elements of Machine Design (ME, PT)	3	-	2	5	70	30*	25	25	150
			Elective I	3	-	2	5	70	30*	25	25	150
2.97 2.93 2.46 3.47	14(13) 18 (15) G8 G1 (1) (8)	29 28 41 44	Production Management & Industrial Safety	3	-	2	5	70	30*	25	25	150
3.21	4 (3)	22	CNC Programming	-	-	2	2	-	-	25	25 <sup>~1</sup>	50
3.17	6(5)	7	Solid Modeling and Additive Manufacturing (ME, PS, & 4 <sup>th</sup> Sem AE)	-	-	2	2	-	-	25	25 <sup>~1</sup>	50
2.96	17(14)	27	Minor Project (Common to all)	-	-	4	4	-	-	50	50	100
<b>Total</b>				<b>15</b>	<b>-</b>	<b>24</b>	<b>39</b>	<b>350</b>	<b>150</b>	<b>300</b>	<b>300</b>	<b>1100</b>

**(\*)**: Under the theory PA, Out of 30 marks, 10 marks are for micro-project assessment to facilitate integration of COs and the remaining 20 marks is the average of 2 tests to be taken during the semester for the assessment of the cognitive domain LOs required for the attainment of the COs; **(~1)**: For the courses having ONLY practical, the PA has two parts (i) practical part - 15 marks (60%) (ii) micro- project part - 10 marks (40%); **(^)**: Though 6 credits are allocated for Industrial Training it is only for awarding marks. As far as teaching load/time table preparation is considered, each faculty would be assigned with one batch of students (equivalent to practical batch size) for guiding the preparation of industrial training report and its evaluation. For this purpose 1 hour (or two hours on working Saturdays) teaching load would be considered.

**Note**

- a) Evaluation of industrial training and its reports is to be done during this semester. Credits of Industrial Training will not affect the framing of the time table.
- b) Students have to choose any one elective group in V semester **as stream specific specialisation**, and have to take first course of that group as elective- I in V semester. They would be required to take another two courses of the same group/stream in VI semester as elective - II and elective - III. Their major and minor projects should also have emphasis preferably on the same stream of specialisation.

Weighted mean score	S. No. & (Rank No.) of Report	Industry Questionnaire S. No.	Group Number and Name of Specialization
<b>Group A – Production Engineering</b>			
3.08	8 (7)	18	Elective I – Tool Engineering
<b>Group B – Power &amp; Thermal Engineering</b>			
2.45	33 (28)	30	Elective I - Power Plant Engineering
2.25	34 (29)	32	

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**VI - Semester**

Weighted mean score	S. No. & (Rank No.) of Report	Industry Questionnaire S. No.	Course Title	Teaching Scheme/Week			Credits (L+T +P)	Examination Scheme				
				L	T	P		Theory		Practical		Grand Total
								ESE	PA	ESE	PA	
IF**	a1	-	Automobile Engineering	3	-	2	5	70	30*	25	25	150
3.08	9(8)	35	Industrial Hydraulics and Pneumatics	3	-	2	5	70	30*	25	25	150
2.93	19 (15)	34										
3.31	2(1)	26	Industrial Engineering and Quality Control	4	-	2	6	70	30*	25	25	150
2.90	G7 (7)	43										
			Elective - II	3	-	2	5	70	30*	25	25	150
			Elective - III	3	-	2	5	70	30*	25	25	150
3.42	G2 (2)	37	Technical Writing (Common to all)	-	-	2	2	-	-	25	25	50
2.96	17(14)	27	Major Project (Common to all)	-	-	6	6	-	-	75	75	150
<b>Total</b>				<b>16</b>	<b>-</b>	<b>18</b>	<b>34</b>	<b>350</b>	<b>150</b>	<b>225</b>	<b>225</b>	<b>950</b>

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**Note**

a) The **Technical Writing** course is introduced as practical work, in which English faculty members would facilitate the framing of correct language for writing different chapters and presentation (i.e.PPT. and others) of their project work from English point of view. Name of English teacher has to be included as a 'Language Editor' in the project and this activity will be the part of practical shown against Technical Writing course at VI semester. This work shall be carried out for each batch (size same as for practical).

b) Students who have chosen the **stream specific specialisation** in elective – I in V semester, should choose the same stream/group courses in elective – II and elective – III in VI semester. Their **major project** should also have emphasis preferably on the same

group/stream which could further sharpen their skills in that area.

Weighted mean score	S. No. & (Rank No.) of Report	Industry Questionnaire S. No.	Group and Name of Specialization
<b>Group A – Production Engineering</b>			
IF**	Other	Other	<b>Elective II - Computer Integrated Manufacturing</b>
IF**	Other	Other	<b>Elective III - Fabrication Technology</b>
<b>Group B – Power &amp; Thermal Engineering</b>			
2.82	23(19)	20	<b>Elective II – Heating, Ventilation and Air Conditioning</b>
2.40	32,27	31	<b>Elective III - Wind and Solar Power Systems</b>

(\*\*): Industrial feedback

- Activities**

- 1) Guest lectures
- 2) Entrepreneur Development Camp
- 3) Technical Workshops

- Academic Achievement of the students:**

Sr.No.	Name of student	Entrance / Competitive Exam

- Every year students participates and win prizes in various intercollegiate competitions**

Session	Name of student	Activity/ Event	Rank in at college level
	Ankush Thool	Dance	Winner
<b>2018-19</b>	1)Rohit Muneshwar 2)Kanaiyya Morwal 3)Suraj Wankhade 4)Vishal Londhekar 5)Aniket Mungle 6)Umesh Mane 7)Ritesh Dhapudkar	Drama	Runner
<b>2018-19</b>	1)Shiv Chafle	Debate	Winner
<b>2018-19</b>	2)Atharva Joshi	Debate	Runner
<b>2018-19</b>	Gaurav Rewatkar	Rangoli	Runner
<b>2018-19</b>	Shreyas Joge	Rangoli	Winner





<b>2018-19</b>	Mukul Samrey	Rangoli	Runner
<b>2017-18</b>	ME 6 <sup>th</sup> semester (26students)	Drama	Winner
<b>2017-18</b>	Ankush Thool	Dance	Runner
<b>2017-18</b>	Atharva Joshi	Debate	Runner
<b>2017-18</b>	Gaurav Rewatkar & Onkar Wankhade	Rangoli	Runner Runner
<b>2017-18</b>	Nikhil Gomkale	Singing	Runner
<b>2017-18</b>	Mahesh Alotkar Shubham Chadi	Fun Game	Winner Runner
<b>2017-18</b>	Ajinkya Lakhe Hasif Sheikh Prajwal Kande	Quiz competition	Winner

• **Intercollegiate seminar competitions**







<b>Session</b>	<b>Competition</b>	<b>Organizer</b>	<b>Name of student</b>	<b>Prize</b>
<b>2017-18</b>	Paper presentation	A.G.Polytechnic, Solapur	Madhur Charde	
<b>2017-18</b>	Paper presentation	Govt. College of Engg. Amravati	Rahul Sawarkar	
<b>2017-18</b>	Paper presentation	Govt. College of Engg. Amravati	Vineet Lasne	
<b>2016-17</b>	Paper presentation	CSMSS Polytechnic college, Aurangabad	Nayan Zade	
<b>2016-17</b>	Paper presentation	CSMSS Polytechnic college, Aurangabad	Shreyas Farsule	
<b>2016-17</b>	Paper presentation	Agnihotri College of Engg. Wardha	Akshay Patil	Second Prize
<b>2016-17</b>	Quiz Competition	MSBTE Govt. Polytechnic, Murtizapur	Kudewal Ramesh	
<b>2016-17</b>	Paper presentation	DMIETR, Sawangi(M),	1)Rahul Sawarkar 2)Vineet Lasne	



			Wardha	3)Rohan Dhok 4)Ashish Padole	
<b>2016-17</b>	Paper presentation		Agnihotri College of Engg. Wardha	Akshay Patil	
<b>2016-17</b>	Paper presentation		S.D.College of Engg. Selukate, Wardha	Gaurav Dakhole	
<b>2016-17</b>	Paper presentation		S.D.College of Engg. Selukate, Wardha	Akshay W. Patil	

### Teaching staff

Sr. no	Name of faculty	Qualification	Designation	Date of joining	Specialization	Area of research/interest	Photo
1	Mr. R.M.Kasare	M.Tech	LME	21/07/95	Production Engg.		
2	Mr.S.C.Kongare	Ph.D, M.Tech	LME	21/7/95	Heat Power Engg.		
3	Mr. P.B.Jari	BE	LME	21/07/95			
4	Mr.P.P.Shah	Ph.D, M.Tech	LME	29/8/96	Quality Management		



5	<b>Mr.R.M.Bhawar kar</b>	<b>Ph.D, M.E</b>	<b>LME</b>	<b>5/11/97</b>	<b>Production Engg.</b>		
6	<b>Mr.A.A.Chavan</b>	<b>M.E M.Tech</b>	<b>LME</b>	<b>5/07/05</b>	<b>Automobile Engg.</b>	<b>Biogas &amp; solar dryer</b>	
7	<b>Mr.A.L.Ghotkar</b>	<b>M.Tech</b>	<b>LME</b>	<b>30/08/96</b>	<b>Industrial Engg.</b>		
8	<b>Mr.K.S.Rao</b>	<b>M.Tech</b>	<b>LME</b>	<b>03/09/96</b>	<b>CAD-CAM</b>		
9	<b>Mrs. S.P.Lambat</b>	<b>M.Tech</b>	<b>LEE</b>	<b>11/10/10</b>	<b>Electrical &amp; Electronics Engg.</b>		
10	<b>Mr.K.S.Dagwar</b>	<b>M.Tech</b>	<b>LME</b>		<b>CAD-CAM</b>		
11	<b>Mr.G.S.Lanjewar</b>	<b>M.Tech</b>	<b>LME</b>	<b>12/6/16</b>	<b>CAD-CAM</b>		

12	Ms.B.H.Verma	M.Tech	LME	12/06/16	Heat Power Engg.	
13	Ms.K.D.Satone	M.Tech	LME	1/09/18	CAD-CAM	

### Non-Teaching staff

Sr.No.	NAME	DESIGNATION	EXPERIEN CE	AREA OF INTEREST
1.	Sunil Ambore	Instructor Instrument Mechanic	23 Year	Mechanical Instrument
2.	SudhakarThakre	Hamal	32 Year	-----
3.	P.K.Dabhade	Hamal	23 Year	-----
4.	A.R.Ikhar	Lab Assistant Technician	13 Year	Mechanical Moulding