

	<b>Sanjay Ghodawat University, Kolhapur</b> Established as State Private University under Govt. of Maharashtra. Act No XL, 2017	2018-19 EXM/P/09/01
<b>Year and Program: 2018-19</b>	<b>School of Technology</b>	<b>Department of Aeronautical Engg. S.Y.B.Tech.</b>
<b>Course Code: AET209</b>	<b>Course Title: Manufacturing Processes</b>	<b>Semester – III</b>
<b>Day and Date:</b> Thursday 06 Dec 18	<b>End Semester Examination (ESE)</b>	<b>Time: Max Marks: 100</b>

- Instructions:**
- 1) All questions are compulsory.
  - 2) Assume suitable data wherever necessary.
  - 3) Figures to the right indicate full marks.

Q.1	Solve any Two	Marks	Bloom's Level	CO
a)	Define feed in shaping, using neat sketches, describe the various operations that can be carried on shaping machines. OR	07	L <sub>2</sub>	CO1
a)	Using neat sketches, describe the various operations that can be carried on lathe machines.	07	L <sub>2</sub>	CO1
b)	With the help of a neat sketch explain the column and knee type milling machine and name its main parts OR	08	L <sub>2</sub>	CO2
b)	What operations can be done on a drilling machine? Discuss any three of them with diagrams.	08	L <sub>2</sub>	CO2
Q.2	Solve any Two			
a)	Briefly explain the following operations performed in forging: I. Upsetting ii. Fullering iii. Edging OR	07	L <sub>2</sub>	CO3
a)	Describe indirect extrusion processes with neat figure.	07	L <sub>2</sub>	CO3
b)	Elaborate investment casting step by step with neat figures. OR	08	L <sub>2</sub>	CO4
b)	Explain injection moulding process for plastics.	08	L <sub>2</sub>	CO4
Q.3	Solve any Two			
a)	Define the following terms used in lathe operation.	08	L <sub>2</sub>	CO1

	(i) Cutting speed			
	(ii) Feed			
	(iii) Depth of cut			
	b) List the devices commonly used for holding the work on a drilling machine, and describe any three.	08	L <sub>2</sub>	CO2
	c) Briefly explain the following: 1) Defects in forging 2) Defects in rolling	08	L <sub>2</sub>	CO3
	d) Explain Hot Chamber die casting.	08	L <sub>2</sub>	CO4
<b>Q.4</b>	<b>Solve any Two</b>			
	a) Explain following operations performed in press working with figures: 1. Slitting 2. Lancing 3. Perforating 4. Nibbling	09	L <sub>2</sub>	CO5
	b) Explain the following terms used in press working with neat sketch. a. Die b. Punch c. Punch plate d. Backup plate	09	L <sub>2</sub>	CO5
	c) Calculate percentage of utilization to punch the mild steel washer of outside diameter of 30 mm and thickness 2 mm. Also calculate number of washer produced if sheet length is 1200mm.	09	L <sub>3</sub>	CO5
<b>Q.5</b>	<b>Solve any Two</b>			
	a) Describe the principle and equipment for Abrasive Jet machining.	09	L <sub>2</sub>	CO6
	b) Explain the principle and working of Laser beam machining.	09	L <sub>2</sub>	CO6
	c) With the help of a neat sketch, explain the principle and working of Electrical discharge machining.	09	L <sub>2</sub>	CO6
<b>Q.6</b>	<b>Solve any Three</b>			
	a) What is clearance? Why it is important in shearing operation of press working	06	L <sub>2</sub>	CO5
	b) Explain compound die in press working with neat sketch.	06	L <sub>2</sub>	CO5
	c) Define ECM. What are the advantages and Disadvantages of ECM?	06	L <sub>2</sub>	CO6
	d) State the working principle of EBM. State any four limitations of EBM.	06	L <sub>2</sub>	CO6