Sanjay Ghodawat University, Kolhapur 2019-20

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017 EXM/P/09/01

Year and Program:2019-20 **School of Technology** **Department of Aeronautical Engg. S.Y.B.Tech.**

Course Code: AET209 **Course Title: Manufacturing Processes** **Semester – III**

Day and Date: Monday 25/11/19 **End Semester Examination (ESE)** **Time:** 8 hrs 10.30am to 1.30pm **Max Marks: 100**

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

		Marks	Bloom's Level	CO
Q.1	**Solve any Two**			
a)	A hole with 40mm diameter and 50 mm depth is to be drilled in mild steel component. The cutting speed can be taken as 65 m/min and feed as 0.25 mm/rev. Calculate the machining time and material removal rate.	07	L_3	CO1
	OR			
a)	Describe with suitable sketch the procedure for turning a taper using swiveling the Compound Rest.	07	L_2	CO1
b)	Differentiate between up milling and down milling.	08	L2	CO2
	OR			
b)	Using neat sketches, describe the various parts in radial drilling machine.	08	L_2	CO2
Q.2	**Solve any Two**			
a)	Explain various defects in rolling process.	07	L_2	CO3
	OR			
a)	Compare direct and indirect extrusion processes with neat figures.	07	L_2	CO3
b)	Write advantages and disadvantages of continuous casting process.	08	L_2	CO4
	OR			
b)	Describe hot chamber die casting process with a neat sketch.	08	L_2	CO4
Q.3	**Solve any Two**			
a)	Explain the following operations performed on lathe: i.Facing	08	L_2	CO1

ESE

ii.Turning

iii.Threading

iv.Drilling

b)	List the operations performed on drilling machine, and describe any three.	08	L_2	CO2
c)	Explain hydrostatic extrusion process with a neat sketch.	08	L_2	CO3
d)	Write types of pattern and discuss any one with neat sketch.	08	L_2	CO4
Q.4	**Solve any Two**			
a)	Explain the following terms used in press working. 1.Die 2.Punch 3.Stripper	09	L_2	CO5
b)	Discuss the following terms in press working 1.Springback in bending operation 2.Clearance in shearing operation	09	L_3	CO5
c)	Find the total pressure and dimensions of tools to produce a washer 5 cm of outside diameter with a 2.4 cm diameter hole, from material 4 mm thick having a shear strength of 360 N/mm sq.	09	L_3	CO5
Q.5	**Solve any Two**			
a)	Describe the principle and equipment for Electrical discharge machining.	09	L_3	CO6
b)	Explain the principle and working of Laser beam machining.	09	L_2	CO6
c)	With the help of a neat sketch, explain the principle and working of an abrasive jet machining.	09	L_2	CO6
Q.6	**Solve any Three**			
a)	Explain strip layout in sheet metal working.	06	L_2	CO5
b)	Explain progressive die in press working with neat sketch.	06	L_2	CO5
c)	Define ECM. What are the advantages and Disadvantages of ECM?	06	L_2	CO6
d)	Define ultrasonic machining(USM). What are the advantages and Disadvantages of USM?	06	L_2	CO6

ESE