Sanjay Ghodawat University, Kolhapur

2020-21

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017

EXM/P/09/00

Year and Program: 2020-21SY. B Tech	**School of Technology**	**Department:**
Course Code: AET209	**Course Title: Manufacturing Process**	**Semester: III**
Day : Wednesday **Date: 10.02.2021**	**End Semester Examination**	**Time:2 Hrs.** **Max Marks:50**

Instructions: 1) All Questions are compulsory.
2)Figure to the right indicates full harks.
3) Assume suitable datawherevernecessary and state it clearly.
4) Use ofscientific calculators is permitted.

		Marks	Bloom's Level	CO
Q.1	**Answer the following (any Two)**–			
a)	Explain the crank and slotted link quick return mechanism used in shaping machine.	8	L2	CO1
b)	A surface 80 x 160 mm is rough-machined using 150 mm diameter face milling cutter having 10 teeth. The cutter centre is offset by 15 mm from the line of symmetry of the surface. If a feed per tooth of 0.25 mm and a cutting speed of 20 m/min are employed, the time to rough machine the surface is	8	L3	CO1
c)	Distinguish between traditional and non-traditional machining processes	8	L2	CO5
Q.2	**Answer the following (any two)** –			
a)	A d=20 mm through hole is to be drilled in a 30 mm thick plate using a double fluted, 120° lip angle drill. The drill tip is at a distance of 3 mm from the plate surface when cutting is started and an over travel of 2 mm is recommended as a margin to ensure drilling through the full thickness of the plate. If the drill rotates at 500 rev/min and the feed per tooth is 0.01 mm, the machining time of the operation (in min) will…	8	L2	CO1
b)	Explain compound die in press working with neat sketch.	8	L2	CO4
c)	State and explain the principle of ultrasonic machining process.	8	L2	CO5
Q.3	**Answer the following (any two)** –			

a)	Explain hydraulic extrusion with neat sketch. State advantages over Direct extrusion process.	9	L2	CO2
b)	Explain shell molding casting with neat sketch. State its advantages anddisadvantages.	9	L2	CO3
c)	A blank of 50 mm diameter is to be sheared from a sheet of 2.5 mm thickness. The required radial clearance between the die and the punch is 6% of sheet thickness. Calculate the punch and die diameters (in mm) for this blanking operation.	9	L3	CO4

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