

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-IV (NEW) EXAMINATION – SUMMER 2021****Subject Code:3141908****Date:08/09/2021****Subject Name:Manufacturing Processes****Time:02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS	
Q.1	(a) What are basic requirements to perform machining?	03	
	(b) Write with help of fig. any two methods of taper turning into lathe machine.	04	
	(c) Explain about crank and slotted link quick return mechanism in shaper machine.	07	
Q.2	(a) Explain knurling operation in lathe machine.	03	
	(b) Describe how lathe machine tool specified?	04	
	(c) Draw schematic fig for Lathe machine and describe its components.	07	
<b>OR</b>			
Q.3	(c) Draw single point cutting tool and explain tool signature as per ASA.	07	
	(a) Differentiate between drilling and boring operations.	03	
	(b) Explain horizontal boring machine with neat sketch.	04	
Q.3	(c) Draw and explain nomenclature of drill bit.	07	
	<b>OR</b>		
	(a) At what speed a 20 mm drill will run for cutting steel at 25 m/min surface speed?	03	
Q.4	(b) Write with help of fig counter sinking and counter boring operation.	04	
	(c) Explain tapping attachment in drilling machine.	07	
	(a) Differentiate Upmilling and Downmilling processes.	03	
Q.4	(b) Write any two milling machine operation with fig.	04	
	(c) Explain about crank and slotted link quick return mechanism in shaper machine.	07	
	<b>OR</b>		
Q.4	(a) Explain Gang milling and Form milling Operations.	03	
	(b) What is indexing? Describe direct indexing, with example.	04	
	(c) With the help of figure explain 'Hydraulic' shaper mechanism.	07	
Q.5	(a) Write advantages and limitations of broaching.	03	
	(b) Explain about dressing and truing of grinding wheel.	04	
	(c) Explain Indian standard marking system for grinding wheels.	07	
<b>OR</b>			
Q.5	(a) What is broaching? How broaches are classified?	03	
	(b) Write classification of sawing machine. Explain any one.	04	
	(c) Explain any one Alignment test of Lathe machine with neat sketch.	07	

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