

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III (New) EXAMINATION – WINTER 2018****Subject Code: 2131903****Date: 28/11/2018****Subject Name: Manufacturing Process-1****Time: 10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	(a) Differentiate right hand and left hand single point cutting tools with neat sketches.	03
	(b) Give the comparison between a turret lathe and capstan lathe.	04
	(c) Explain Radial Drilling machine with neat sketch. Write the types of Drill tools.	07
Q.2	(a) Enlist the operations performed on Lathe machine.	03
	(b) Compare the benefits and limitations of a three-jaw chuck over the four-jaw chuck.	04
	(c) State the advantages of all geared headstock as against a belt driven headstock. Explain the function of a half nut during lathe operation with a neat sketch.	07
	OR	
	(c) A cylindrical work part 125 mm in diameter and 900 mm long is to be turned in an engine lathe. Cutting conditions are: $v = 2.5$ m/s, $f = 0.3$ mm/rev, and depth of cut = 2.0 mm. Determine: (a) cutting time, and (b) metal removal rate.	07
Q.3	(a) How does a boring operation differ from a turning operation?	03
	(b) What is the difference between peripheral milling and face milling?	04
	(c) Why are reaming operations performed? Explain Knee type Milling machine in Details.	07
	OR	
Q.3	(a) Explain the effect of unequal lips in twist drill.	03
	(b) Describe the difference between up milling and down milling.	04
	(c) Classified metal cutting sawing machine and explain any two in details.	07
Q.4	(a) Explain reaming and tapping with neat sketches.	03
	(b) List out various milling machine operations and explain any two.	04
	(c) Explain Drilling and its allied operation in details with application.	07
	OR	
Q.4	(a) What is Indexing? Write its application.	03
	(b) Name the alignment tests required for milling machine to give best quality Product.	04
	(c) With the help of figure, explain 'Hydraulic shaper mechanism.	07
Q.5	(a) Sketch out the jig-boring machine with notation.	03
	(b) Explain center less grinder using suitable diagram.	04
	(c) Write advantages, limitations and applications of "Broaching-Machines".	07

OR

- Q.5**
- (a)** What do you understand about the action of quick return in reciprocating machine tools? **03**
 - (b)** Differentiate between a shaper and planer machine. **04**
 - (c)** Explain the specifications of a grinding wheel. Explain why a hard wheel is suggesting to grinding a soft material and vice versa. **07**
