

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-IV (NEW) EXAMINATION – WINTER 2020****Subject Code:3142509****Date:19/02/2021****Subject Name:Manufacturing Technology -I****Time:02:30 PM TO 04:30 PM****Total Marks:56****Instructions:**

1. Attempt any **FOUR** questions out of **EIGHT** questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		Marks
Q.1	(a) What is metal cutting?	03
	(b) Discuss basic elements of metal cutting.	04
	(c) Explain different types of chips formed in metal cutting with conditions.	07
Q.2	(a) Give the classification of machine tools.	03
	(b) Explain single point cutting tool geometry.	04
	(c) Compare orthogonal and oblique cutting.	07
Q.3	(a) List the common operations which can be carried out on lathe.	03
	(b) Give the comparison between a turret lathe and capstan lathe.	04
	(c) What do you understand by (1) Gang milling (2) Straddle milling (3) String milling?	07
Q.4	(a) Give the list various types of planers.	03
	(b) State difference between planer and shaper.	04
	(c) Classify drills. Explain nomenclature of twist drill with neat sketch.	07
Q.5	(a) Write specifications of radial drilling machines.	03
	(b) State difference between up milling and down milling.	04
	(c) Explain why a lathe bed is made from cast iron. Explain the lathe bed with a neat sketch.	07
Q.6	(a) What is indexing? Why is it required?	03
	(b) Write different applications of broaching.	04
	(c) Explain types of reamers.	07
Q.7	(a) What is boring operation?	03
	(b) Explain jig boring machine.	04
	(c) Explain primary and auxiliary motion with reference to machine tool.	07
Q.8	(a) What is dressing of grinding wheel?	03
	(b) Explain centreless internal grinding operation with neat diagram.	04
	(c) Explain types of bonding process of abrasives with grinding wheel (any three).	07
