

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-IV (NEW) EXAMINATION – WINTER 2023****Subject Code:3141908****Date:24-01-2024****Subject Name: Manufacturing Processes****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.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Classify basic machine tools used in the workshop.	03
	(b) Describe primary and secondary motions used in the machine tools.	04
	(c) Illustrate single point cutting tool geometry and its signature with sketch.	07
Q.2	(a) Describe about alignment test of lathe machine.	03
	(b) Differentiate between Capstan and Turret Lathe	04
	(c) List the different methods of taper turning on lathe. Explain about taper turning attachment with neat sketch.	07
	OR	
	(c) Elaborate Operations carried out on lathe machine with a neat sketch.	07
Q.3	(a) Differentiate between drilling and boring operations.	03
	(b) Write a short note on radial drilling machine.	04
	(c) Classify drills. Explain nomenclature of twist drill with neat sketch.	07
	OR	
Q.3	(a) Give any four applications of drilling machine.	03
	(b) Explain horizontal boring machine with neat sketch.	04
	(c) List the drilling operations. Explain any five operations with neat sketches.	07
Q.4	(a) Differentiate between Up milling and Down milling processes.	03
	(b) Explain alignment test of Milling machine with a sketch.	04
	(c) Explain about crank and slotted link quick return mechanism in shaper machine.	07
	OR	
Q.4	(a) Classify Milling machine as per application and structure.	03
	(b) What is indexing? Describe direct indexing with example.	04
	(c) With the help of a neat sketch explain the column and knee type milling machine and name its main parts.	07
Q.5	(a) Write advantages and limitations of broaching.	03
	(b) How grinding wheel is specified?	04
	(c) Illustrate surface grinding machine with a neat sketch.	07
	OR	
Q.5	(a) Explain how to cut internal keyway on slotter machine with neat sketch.	03
	(b) Explain about dressing and truing of grinding wheel.	04
	(c) Describe grinding wheel characteristics and wheel selection procedure in details.	07
