

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-VI (NEW) EXAMINATION – WINTER 2024

Subject Code:2161909

Date:28-11-2024

Subject Name:Production Technology

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) Draw neat sketch of single point cutting tool geometry.	03
	(b) What are crater wear and flank wear? Explain with neat sketch.	04
	(c) Derive an expression of shear plane angle in single point cutting.	07
Q.2	(a) Brief explain different heat zone of metal cutting process with sketch	03
	(b) Enlist the tool wear mechanisms and Explain anyone.	04
	(c) Explain Taylors tool life equation, $VT^n = \text{constant}$.	07
	OR	
	(c) Illustrate Merchant's Circle Diagram along with assumptions.	07
Q.3	(a) Enlist thread manufacturing processes.	03
	(b) Write Advantage and disadvantages of jig fixtures.	04
	(c) What are the different gear manufacturing processes? Explain any two.	07
	OR	
Q.3	(a) Draw a neat sketch of box jig, indexing jig and channel jig.	03
	(b) Write function and characteristic of cutting fluid.	04
	(c) Describe various types of Chips formed during machining process.	07
Q.4	(a) Illustrate Strip layout related to press work.	03
	(b) List the various gear finishing processes and explain any two processes	04
	(c) Explain the 3-2-1 locating concept using pins, with suitable sketches.	07
	OR	
Q.4	(a) List out various types of drill bushes and its application.	03
	(b) How the Presses are classified? Sketch any one of it.	04
	(c) Compare a combination die and a Compound die	07
Q.5	(a) Discuss characteristics of cutting tool material.	03
	(b) Classify in details non-conventional machining processes.	04
	(c) Write short note on LBM.	07
	OR	
Q.5	(a) What are the basic requirements for tool materials for EDM?	03
	(b) Illustrate USM machining process.	04
	(c) Explain basic principle of EDM with neat sketch.	07
