Enrolment No./Seat No_____

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code:3161922 Date:05-12-2024

Subject Name: Advanced 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)**	Explain the requirement of non-conventional machining processes.	**03**
	(b)	Give the classification of mechanical energy based processes.	**04**
	(c)	Explain water jet machining process with neat sketch.	**07**
Q.2	**(a)**	Justify the requirement of maskant in chemical machining process	**03**
	(b)	Distinguish between conventional and non-conventional machining process	**04**
	(c)	Illustrate laser beam machining process with neat diagram	**07**
		OR	
	(c)	Explain electron beam machining process with neat sketch	**07**
Q.3	**(a)**	Write advantages and disadvantages of electro chemical machining process	**03**
	(b)	Explain the effect of process parameters on MRR in abrasive jet machining process	**04**
	(c)	Explain electro discharge machining process in detail with neat diagram	**07**
		OR	
Q.3	**(a)**	Write applications of electro chemical grinding process	**03**
	(b)	How MRR changes by changing the process parameters of wire cut EDM process?	**04**
	(c)	Illustrate ultrasonic machining process with neat sketch	**07**
Q.4	**(a)**	Explain the importance of rapid prototyping process in recent scenario	**03**
	(b)	State advantages, disadvantages of stereo lithography process	**04**
	(c)	Illustrate laminated object manufacturing process with neat sketch and list its application	**07**
		OR	
Q.4	**(a)**	List the advantages of rapid prototyping process	**03**
	(b)	Distinguish between additive and subtractive manufacturing processes	**04**
	(c)	Explain FDM process with neat diagram	**07**
Q.5	**(a)**	Illustrate process flow diagram for glass manufacturing	**03**
	(b)	List the limitations of composite materials	**04**
	(c)	Explain the soda lime glass in detail	**07**
		OR	
Q.5	**(a)**	List the functions of matrix in composite materials	**03**
	(b)	Explain continuous glass fibres process with neat sketch	**04**
	(c)	Explain resin transfer moulding process with required diagram	**07**

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