

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER– VI EXAMINATION – SUMMER 2026

Subject Code:3162507

Date:08-06-2026

Subject Name: Allied Manufacturing Technology

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) Highlight importance of Allied Manufacturing Techniques.	03
	(b) State any four applications where threaded parts are used.	04
	(c) Compare and contrast thread casting versus thread rolling.	07
Q.2	(a) Discuss various applications of Gears.	03
	(b) Explain any one Gear Machining method	04
	(c) How gear teeth are tested with Gear Tooth Vernier Caliper?	07
	OR	
	(c) Enlist various gear finishing processes. Explain any one with neat sketch.	07
Q.3	(a) Mention any three unique characteristics of unconventional machining processes	03
	(b) Why fire hazards doesn't happen though we use kerosene as dielectric fluid and machining occurs through series of spark in EDM?	04
	(c) Give working principal, equipment used and process parameters of USM.	07
	OR	
Q.3	(a) What is the full form of LASER? Name solid-state and gas lasers.	03
	(b) Discuss advantages and limitations of EBM	04
	(c) Draw a schematic diagram of AJM process. Illustrate the process and explain MRR.	07
Q.4	(a) Describe any three characteristics of dielectric fluid.	03
	(b) Briefly explain techniques for applying maskants.	04
	(c) Define Plasma. With the figure explain PAM.	07
	OR	
Q.4	(a) How WCEDM is used?	03
	(b) Give full form of ECG & ECH. Also state its application.	04
	(c) How electrolytes play their role in ECM? Describe effect of MRR on surface roughness in ECM process.	07
Q.5	(a) What is micro-machining?	03
	(b) Write principles of micro-turning and micro-drilling.	04
	(c) Elaborate different measuring techniques used in micro-machining.	07
	OR	
Q.5	(a) What are advanced fine finishing processes?	03
	(b) Briefly discuss abrasive flow machining.	04
	(c) Write a short note on Magneto Rheological Abrasive Finishing: Process.	07