

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER- VI EXAMINATION – SUMMER 2026

Subject Code: 3161923

Date: 01-06-2026

Subject Name: Non destructive Testing

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) What is Non-destructive testing? Enlist different type of Non-destructive testing techniques.	03
	(b) State the use of Borescope in visual testing.	04
	(c) Explain with neat sketch the principle of Liquid penetrant testing. Also state the different steps of LPT.	07
Q.2	(a) Give difference between Destructive and Non-destructive testing.	03
	(b) Enlist advantages and disadvantages of X-ray radiography.	04
	(c) Explain Ultrasonic testing with its advantages and limitations.	07
	OR	
	(c) What is sensitivity in NDT? Discuss briefly about selection of different NDT techniques for detection of defects.	07
Q.3	(a) Discuss different type of sound waves in Ultrasonic testing.	03
	(b) What is Magnetism? Explain principle of MPT.	04
	(c) Write short note on magnetizing technique.	07
	OR	
Q.3	(a) Discuss applications and limitations of MPT.	03
	(b) Explain principle of Acoustic Emission testing (AET).	04
	(c) Write short note on procedure of testing component using MPT.	07
Q.4	(a) Explain X-ray film processing.	03
	(b) Give difference between Ultrasonic and Radiography testing.	04
	(c) Explain Ultrasonic testing A- scan, B-scan and C-scan.	07
	OR	
Q.4	(a) What are the safety precautions takes while performing industrial Radiography?	03
	(b) Explain the principle of radiographic examination with neat sketch.	04
	(c) With neat sketch write short note on X-ray generation in radiography testing.	07
Q.5	(a) What is leak? Explain types of it.	03
	(b) Discuss the applications and limitations of leak and pressure testing.	04
	(c) Write a short note on Eddy current testing.	07
	OR	
Q.5	(a) Discuss Eddy current testing principle.	03
	(b) What do you understand by sensitivity in Eddy current testing?	04
	(c) Write short note on different methods of Leak testing.	07
