

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V EXAMINATION – SUMMER 2025

Subject Code:3151708

Date:17-05-2025

Subject Name:Measurement in industry

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 capacitive type displacement transducer.	03
	(b) Explain any two different types of optical proximity sensing.	04
	(c) Explain in detail about LVDT and RVDT with necessary diagram and its application.	07
Q.2	(a) Explain with sketch about flapper nozzle arrangement.	03
	(b) Explain resistive accelerometer in detail.	04
	(c) Explain foil and semiconductor type strain gauge in detail with necessary diagram.	07
OR		
	(c) Explain magneto elastic load cell for force measurement technique.	07
Q.3	(a) Explain strain gauge type tachometer in detail.	03
	(b) Explain PH glass electrode in detail.	04
	(c) Explain importance of torque measurement. Explain fly ball tachometer.	07
OR		
Q.3	(a) Explain inductive pulse tachometer in detail.	03
	(b) Explain electrolytic hygrometer for humidity measurement.	04
	(c) Give definition of density with SI unit. Explain Bubbler system for density measurement.	07
Q.4	(a) Explain capacitive hygrometer.	03
	(b) Explain ultrasonic densitometer in detail.	04
	(c) Explain 2 pole and 4 pole conductivity cells in detail.	07
OR		
Q.4	(a) Explain polarography set up in detail.	03
	(b) Explain oswald viscometer in detail.	04
	(c) Explain working principle of Flame Photometer.	07
Q.5	(a) Explain dual beam turbidity meter in detail.	03
	(b) Explain in detail UV Visible Spectroscopy.	04
	(c) Explain Gas Chromatography.	07
OR		
Q.5	(a) Explain ionisation radiation detector in detail.	03
	(b) Explain mass spectrometer in detail.	04
	(c) Explain paramagnetic oxygen analyser.	07
