

Enrollment No./Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY
Bachelor of Engineering - SEMESTER - V EXAMINATION - WINTER 2025

Subject Code: 3152311

Date: 17-11-2025

Subject Name: Instrumentation, Safety And Maintenance In Plastic Industry

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) Define: Plant, Maintenance and Preventive Maintenance.	03
(b) List types & function of Maintenance Department.	04
(c) List types of Maintenance. Explain about corrective maintenance in detail with advantages and disadvantages.	07
Q.2 (a) Define Pressure. Explain in brief different types of Pressure.	03
(b) Explain in brief about Predictive maintenance.	04
(c) What is the purpose of Thermocouple? Explain about Thermocouple in detail with neat sketch.	07
OR	
(c) Define Lubricants. List various functions of Lubricant.	07
Q.3 (a) Define Safety. By which method safety can be improved?	03
(b) Define: Drift, Calibration, Resolution and True Value.	04
(c) List methods of Pressure Measurement. Explain C-type Bourdon Tube Pressure Gauge in detail with neat sketch.	07
OR	
(a) List and Explain about Liquid Lubricants.	03
(b) What is corrosion? List the types of corrosion. Explain basic mechanism of corrosion.	04
(c) Give classification of Accidents. Explain about safety features required in Injection Molding Process.	07
Q.4 (a) Define Wear. List types of Wear.	03
(b) List advantages and disadvantages of Bimetallic Thermometer.	04
(c) Explain about LVDT in detail with neat sketch.	07
OR	
(a) List types of filled system thermometers.	03

- (b) Explain about solid and semi-solid lubricants. 04
- (c) List and explain about various properties of Lubricants. 07
- Q.5** (a) Explain about safety- Hazards in Plastic Industry. 03
- (b) List types of electrical instruments generally used in plastic Industry for temperature measurement. List advantages of anyone. 04
- (c) What is the basic purpose of Instrumentation? Explain about functional elements of an Instrument. 07

OR

- (a) Define Lubrication. List types of Lubricants according to service. 03
- (b) List causes of wear between screws and barrels in Injection and Extrusion molding. 04
- (c) Define: (1) Viscosity (2) Flash Point & Fire Point (3) Pour Point & Cloud Point. List factors affecting Lubrication failure. 07
