

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– VI (New) EXAMINATION – WINTER 2019****Subject Code: 2162303****Date: 04/12/2019****Subject Name: Plastic Process Instrumentation and Process Control****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.

		MARKS
Q.1	(a) 1. Calibration is the process of _____ by _____ of the correct value of each scale reading on a meter. 2. The average deviation is an _____ of the instruments. 3. Define: Precision	03
	(b) Explain basic elements of closed loop system.	04
	(c) Explain Radiation pyrometer with neat sketch.	07
Q.2	(a) Explain open loop control system with neat diagram.	03
	(b) Explain Seeback effect & thermocouple.	04
	(c) With the neat sketch and brief explain contact and noncontact method of temperature measurement	07
	OR	
	(c) Explain different types of Manometers	07
Q.3	(a) Explain thermistors	03
	(b) Write a short note on static characteristics.	04
	(c) Explain construction, working, advantages & disadvantages of LVDT.	07
	OR	
Q.3	(a) List different types of pressure transducers.	03
	(b) Explain sources of error.	04
	(c) Explain diaphragm pressure transducers with neat diagram.	07
Q.4	(a) Explain C type bourdon tube transducer.	03
	(b) Explain derivative controllers.	04
	(c) Explain Capacitive type pressure transducer	07
	OR	
Q.4	(a) Describe piezoelectric pressure transducer.	03
	(b) Explain open loop transfer function	04
	(c) Explain Strain gauge pressure transducers with neat diagram.	07
Q.5	(a) Explain CASCADE control system.	03
	(b) Explain closed loop transfer function.	04
	(c) Describe the advantages and disadvantages of filled system thermometer with neat sketch.	07
	OR	
Q.5	(a) Define Range, Dead zone & Accuracy.	03
	(b) Define Calibration & explain general steps to perform it.	04
	(c) Explain the total injection molding process control.	07
