Seat No.: _____ Enrolment No.

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**

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