

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VI (NEW) EXAMINATION – WINTER 2018****Subject Code:2162303****Date:16/11/2018****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.

		<b>MARKS</b>
<b>Q.1</b>	(a) Explain sources of error.	<b>03</b>
	(b) Explain open loop control system with neat diagram.	<b>04</b>
	(c) Explain block diagram of instrumentation process with neat sketch.	<b>07</b>
<b>Q.2</b>	(a) Define Range, Precision & Accuracy.	<b>03</b>
	(b) Define Calibration & explain general steps to perform it.	<b>04</b>
	(c) Explain diaphragm pressure transducers with neat diagram.	<b>07</b>
<b>OR</b>		
	(c) Explain construction, working, advantages & disadvantages of LVDT.	<b>07</b>
<b>Q.3</b>	(a) Explain closed loop transfer function.	<b>03</b>
	(b) Explain CASCADE control system.	<b>04</b>
	(c) Explain Strain gauge pressure transducers with neat diagram.	<b>07</b>
<b>OR</b>		
<b>Q.3</b>	(a) Explain open loop transfer function.	<b>03</b>
	(b) Describe piezoelectric pressure transducer.	<b>04</b>
	(c) Explain different types of Manometers?	<b>07</b>
<b>Q.4</b>	(a) Explain derivative controllers.	<b>03</b>
	(b) Explain C type bourdon tube transducer.	<b>04</b>
	(c) Explain Radiation pyrometer with neat sketch.	<b>07</b>
<b>OR</b>		
<b>Q.4</b>	(a) Explain proportional controllers.	<b>03</b>
	(b) Explain basic elements of closed loop system.	<b>04</b>
	(c) Explain Capacitive type pressure transducer.	<b>07</b>
<b>Q.5</b>	(a) Explain open loop control system with neat diagram	<b>03</b>
	(b) Explain Seebach effect & thermocouple.	<b>04</b>
	(c) Explain the total injection molding process control	<b>07</b>
<b>OR</b>		
<b>Q.5</b>	(a) Explain thermistors?	<b>03</b>
	(b) Write a short note on static characteristics.	<b>04</b>
	(c) Describe the advantages and disadvantages of filled system thermometer with neat sketch.	<b>07</b>

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