

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.

MARKS

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