

GUJARAT TECHNOLOGICAL UNIVERSITY**B. E. - SEMESTER – VI • EXAMINATION – WINTER 2012****Subject code: 162303****Date: 04/01/2013****Subject Name: Plastic Process Instrumentation and Process Control****Time: 02.30 pm - 05.00 pm****Total Marks: 70****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) What are the different methods of Temperature measurement? Explain about Resistance Thermometer. **07**
- (b) Explain about the construction and working of a strain – gauge pressure transducer with the help of a neat sketch. What are the advantages & disadvantages? **07**
- Q.2** (a) What are the different methods of measure extrude thickness? Explain about any one in detail. **07**
- (b) Write a short note on temperature controllers & power controllers. **07**
- OR**
- (b) Discuss about Temperature characteristics with on-off control. **07**
- Q.3** (a) What are the different parts of Injection molding machine? Explain its functions. **07**
- (b) Explain about the process control techniques in Injection Molding Process. **07**
- OR**
- Q.3** (a) Describe Temperature control of barrel and melt of an Injection Molding Machinery. **07**
- (b) Explain about Press capacity and projected area of an injection molding machine with the help of suitable examples. **07**
- Q.4** (a) What are the requirements of the Instrumentation in Extrusion Molding Machine? **07**
- (b) Describe the Piezo resistive pressure transducers used in extruder with the help of a neat sketch. **07**
- OR**
- Q.4** (a) Discuss about Infrared Melt Temperature Measurement Method of extrude barrel. **07**
- (b) Explain about the true total extrusion process control in detail. **07**
- Q.5** (a) What are the features of Blow Molding machine? How the machine is controlled? **07**
- (b) Explain about different parts of a Blow mould for an oil container with handle. **07**
- OR**
- Q.5** (a) Write a short note on sensors, Transducers. **07**
- (b) Define process control. Explain about the importance of Process control. **07**
