

GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA ENGINEERING – SEMESTER – IV • EXAMINATION – SUMMER- 2017

Subject Code: 3342305**Date: 08- 05- 2017****Subject Name: Process Instrumentation and Maintenance****Time: 10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make Suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of programmable & Communication aids are strictly prohibited.
5. Use of only simple calculator is permitted in Mathematics.
6. English version is authentic.

- Q.1** Define any seven out of ten. **14**
- 1.) Instrumentation 2.) Accuracy 3.) Reproducibility 4.) close loop control system 5.) Servomechanism 6.) Precision 7.) Calibration 8.) Wear 9.) Corrosion 10.) Accident
- Q.2** (a) Convert 40 °F in to °C. **03**
- OR
- (a) Explain liquid in glass thermometers. **03**
- (b) Give classification of transducers. **03**
- OR
- (b) Compare open loop and close loop control system. **03**
- (c) Explain construction and working of bourdon tube pressure gauge. **04**
- OR
- (c) Write a short note on PLC. **04**
- (d) List various types of maintenances and explain any one. **04**
- OR
- (d) List various fault finding methods and explain any one. **04**
- Q.3** (a) List various types of lubricants and explain any one. **03**
- OR
- (a) List various lubrication methods and explain any one. **03**
- (b) List various types of wear and explain any one. **03**
- OR
- (b) List various wear reduction techniques and explain any one. **03**
- (c) List various types of corrosion and explain any one. **04**
- OR
- (c) List various corrosion prevention methods and explain any one. **04**
- (d) Give a Plan for schedule maintenance of an Injection molding machine. **04**
- OR
- (d) Give a Plan for schedule maintenance of extruder. **04**
- Q.4** (a) List and explain various personal protection equipments used for hand. **03**
- OR
- (a) List and explain various types of accidents. **03**
- (b) Discuss the need for SAFETY in plastic industries. **04**
- OR

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| | (b) List various Accident prevention methods and explain any one. | 04 |
| | (c) Explain construction, working of Thermocouple with neat sketch. Also state its advantages and disadvantages. | 07 |
| Q.5 | (a) Explain schedule maintenance activities for mould and dies. | 04 |
| | (b) Explain construction and working of LVDT. | 04 |
| | (c) List various management responsibilities for safety. | 03 |
| | (d) List schedule maintenance activities for hydraulic and pneumatic systems. | 03 |
