

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**DIPLOMA ENGINEERING – SEMESTER – IV • EXAMINATION – SUMMER- 2016**

**Subject Code: 3342305****Date: 27- 05- 2016****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** Answer any seven out of ten. **14**
1. Write full form of PLC.
  2. Define Instrumentation.
  3. State types of static error.
  4. Define maintenance.
  5. Define wear.
  6. State type of temperature scale.
  7. Define transducer.
  8. State two methods of corrosion prevention.
  9. Define pressure and state its unit.
  10. State types of control system.
- Q.2** (a) Draw block diagram of Instrumentation system. **03**  
OR  
(a) Draw a circuit of closed loop system and label it. **03**
- (b) Explain principle of thermocouple. **04**  
OR  
(b) Write short note on Regulators. **04**  
(c) Explain various types of static and dynamic errors occur in an instruments. **07**  
OR  
(c) List and explain various personal protective equipments. **07**
- Q.3** (a) Differentiates close loop and open loop system. **03**  
OR  
(a) State various types of maintenance. **03**  
(b) Write down Servomotor. **04**  
OR  
(b) Discuss principle of lubrication. **04**  
(c) Write short note on “ Maintenance of moulds and dies”. **07**  
OR  
(c) Explain any one pressure measuring instrument. **07**
- Q.4** (a) Explain PLC control system. **03**  
OR  
(a) Short note:-Fault finding method. **03**  
(b) Explain any two types of maintenance. **04**  
(c) Short note: - LVDT (linear variable differential transformer). **07**

- Q.5** (a) Write the maintenance procedure for an injection moulding machine. **07**  
(b) Write short note on “Accident and its prevention” **04**  
(c) Explain maintenance cost and its effect on economy. **03**

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