

GUJARAT TECHNOLOGICAL UNIVERSITY**Diploma Engineering - SEMESTER-VI • EXAMINATION – SUMMER 2013****Subject Code: 361705****Date: 20/05/2013****Subject Name: Advance Process Control****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. English version is considered to be Authentic.

- Q.1** (a) List out the advantages of PLC over other conventional automation system **07**
- (b) Draw architecture of PLC and explain working of it in detail. **07**
- Q.2** (a) Draw symbols of NO Relay, Motor, Solenoid, Red lamp, NC Pressure switch, NO Temp. switch, NC Level switch. **07**
- (b) Describe Continuous Process Control with the help of neat sketch. **07**
- OR**
- (b) Describe Discrete-state Process Control with the help of neat sketch. **07**
- Q.3** (a) List out different modules used for PLC. And explain any one in detail. **07**
- (b) List out different types programming languages used to program PLC. Also develop ladder diagram to make AND logic for PLC. **07**
- OR**
- Q.3** (a) Why isolation is require? List out different isolation techniques. And explain any one in detail. **07**
- (b) Discuss the selection criteria to select PLC. **07**
- Q.4** (a) What are the Achievements and Future of Artificial Intelligence? **07**
- (b) Justify the need of automation in industry. **07**
- OR**
- Q.4** (a) Draw System Architecture of DCS. And explain each level in detail **07**
- (b) Write a short note on logger. **07**
- Q.5** (a) Draw functional block diagram of Supervisory Control & Data Acquisition System (SCADA) and explain each block in detail. **07**
- (b) Write a short note on CRT display for DCS. **07**
- OR**
- Q.5** (a) Draw functional block diagram of Direct Digital Control explain each block in detail. **07**
- (b) Write a short note on Network topology for DCS. **07**
