

GUJARAT TECHNOLOGICAL UNIVERSITY**Diploma Semester -VI Regular Examination May - 2011****Subject code: 361705****Subject Name: Advance Process Control****Date: 24 /05 /2011****Time: 02.30 pm – 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.
4. English version is Authentic

- Q.1** (a) Explain Discrete State Process Control with suitable Industrial example. **07**
 (b) Explain features of Artificial Intelligence. **07**

- Q.2** (a) Draw the block diagram of PLC and explain each part. **07**
 (b) Define term Module. Give classification of Module. Explain Analog I/O Module. **07**

OR

- (b) Explain Discrete I/O Module. **07**
- Q.3** (a) 1. Compare- PLC V/S PC **07**
 2. Explain Ton and Toff Instruction. **07**
 (b) Draw the Ladder logic for the following gates. **07**
 AND, OR, Ex-OR, NOT.

OR

- Q.3** (a) Give the classification of PLC. Explain each types in detail. **07**
 (b) Write the Ladder logic for the fig.(a) **07**

Conditions: When the bottle detects than stop the conveyor belt.

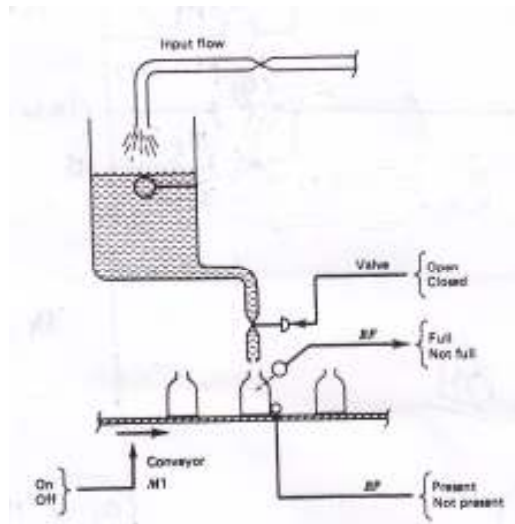
The ON statues of motors M1 is indicated by GREEN LED.

The OFF statues of motors M1 is indicated by RED LED.

Bottle detect by proximity switch. When bottle detect open the control valve for the bottle filling.

When bottle is detected as a filled than close the control valve and start the motors M1.

The filled position of bottle is detected by level switch.



- Q.4**
- (a) Explain DDC with block diagram. **07**
 - (b) Give the application of different Display. Explain any three Displays. **07**
- OR**
- Q. 4**
- (a) What is SCADA? And explain it with neat sketch. **07**
 - (b) Explain the functions performed at various levels of DCS with neat diagram. **07**
- Q.5**
- (a) List out the merits and demerits of the Supervisory control system & DCS system. **07**
 - (b) Explain Data logger. **07**
- OR**
- Q.5**
- (a) Write short note on Ring Topology & Tree Topology **07**
 - (b) Explain Analog I/O Module for DCS. **07**
