

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VIII (old) - EXAMINATION – SUMMER 2018****Subject Code:182403****Date:04/05/2018****Subject Name:Industrial Automation (Department Elective II)****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.

- Q.1** (a) Draw PLC system layout & explain the functionality of interconnected parts. **07**
(b) Explain about industrial process timing application of PLC. **07**
- Q.2** (a) Define PLC. Draw the layouts of PLC input and output modules and explain each in detail. **07**
(b) Explain in detail the PLC Counter functions. **07**
- OR**
- (b) Explain in details PLC timer functions. **07**
- Q.3** (a) Explain in details about DCS as an automation tool to support enterprise resources planning. **07**
(b) Write a note on:- PLC matrix functions **07**
- OR**
- Q.3** (a) Draw the Schematic of Basic DCS and explain different modules of DCS in brief. **07**
(b) Explain the Typical PLC SEQUENCER function. Write the Ladder for Sequencer with Timer Pulsing. **07**
- Q.4** (a) Explain about application development & industrial application for Power electronics. **07**
(b) Explain the process scanning in P.L.C. with the help of scan cycle & appropriate **07**
- OR**
- Q.4** (a) Explain about application development & industrial application for automobile. **07**
(b) Explain standard start ,stop and jog operation by PLC connection diagram and ladder logic. **07**
- Q.5** (a) Explain the JUMP WITH RETURN & JUMP WITH NON RETURN instructions. **07**
(b) Explain the P.L.C. arithmetic functions & draw block format of each. **07**
- OR**
- Q.5** (a) Explain PLC skip function with suitable ladder logic diagrams. **07**
(b) Explain the P.L.C. MOVE functions & illustrate the single register move using an addition process. **07**
