BE – 116

VII Semester B.E. (E & E) Degree Examination, December 2016
(2K11 Scheme)
EE-706.4 : PROGRAMMABLE LOGIC CONTROLLERS (Elective)

Time : 3 Hours Max. Marks : 100

***Instruction** : Answer **any five full** questions.*

1. a) With the help of a block diagram explain PLC architecture and its associated I/O devices. **10**

   b) Explain the concept of sourcing and sinking of DC Input to the PLC. **10**

2. a) What is program scan ? List the process program scan. **10**

   b) Explain briefly the Data file memory organization of Allen Bradley PLC5. **10**

3. a) Explain ladder program for JUMP Instructions with an examples. **10**

   b) Write a ladder diagram for filling and packing of bottles. **10**

4. a) With schematic diagram explain the operation of the following function diagram with example. **10**

      a) On delay timer

      b) Counter.

   b) When push button PB5 is pressed, start mixer M1 and M2 at an Interval of 30 sec. During this time gap, ovens 01 and 02 are turned ON. Stop the mixer when PB5 in switched off. Draw the ladder diagram for this condition. **10**

5. a) Explain the following communication protocol Rs 232 and profibus. **10**

   b) Explain the designing of the manual back up capability for an LCU. **10**

6. a) Explain the architecture of a generalised distributed control system with Block diagram. **10**

   b) With an Instruction format, explain count up and count down counters along with necessary timing diagram. **10**

P.T.O.

7. a) Explain briefly the various layers of a OSI (Open System Inter Connection) sequence model. **10**

   b) Explain the different types of status Indicators and how they help in trouble shooting the problem in PLC. **10**

8. a) Write a short notes on : **(4×5=20)**

   i) Local Control Unit.

   ii) Analog PLC operation.

   iii) Automation Applied to Industry.

   iv) Different methods of programming of a PLC.

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