PLCs AND SCADA
5th Exam/ECE/4617/Jun'2022
(For 2018 Batch onwards)

Duration: 3Hrs.   **M.Marks:75**

SECTION-A

Q1. Do as directed.   **15x1=15**
  a. What are the types of programmable logic controllers?
  b. The PLC internally operates, stores, and calculates the value in _____.
  c. The DC and AC relays works on _____ principle.
  d. Feedback is available in _____ control system.
  e. Relays are a _____ device.
  f. What are the elements of ladder logic?
  g. Which mode accepts and converts signals from sensors into a logic signal?
  h. An OR function implemented in Ladder Logic uses _____   contacts in parellel.
  i. SPDT stands for in relay _____.
  j. SCADA stands for _____.
  k. Micro PLCs are the ones that have _____ I/O points.
  l. RTC stands for _____.
  m. Ladder Logic is a symbolic language.(True/False)
  n. Any change in PLC program normally involves some chages in wiring as well.(True/False)
  o. The last element to be entered on a ladder logic rung is a contact instruction.(True/False)

SECTION-B

Q2. Attempt any six questions.   **6x5=30**
   i. What are the limitations of relays?
  ii. What is ladder programming? Explain it in brief.
  iii. What is Scan Cycle?
  iv. Implement XOR gate using ladder diagram.
   v. Explain the differences between DSC and SCADA.
  vi. Explain the I/O structure of a PLC.
  vii. Discuss Counter instructions of PLC ladder logic?
  viii. Discuss Comparison instructions of PLC ladder logic?

SECTION-C

Q3. Attempt any three questions.   **3x10=30**
  a. Explain basic operation and principles of PLC with the help of block diagram?
  b. Explain types of PLC timers available in ladder logic.
  c. What is SCADA? Explain block diagram of SCADA?
  d. What is DCS? What is Difference between DCS and PLC?
  e. What are the different types of programming languages used in PLCs? Explain them in brief.