Q.29 Explain the working of Master control self holding relays.

Q.30 Explain the concept of RTU.

Q.31 Write down a ladder diagram program to turn ON or OFF the motor.

Q.32 Write a short note on SCADA. Also draw its block diagram.

Q.33 Explain ON timer instruction of PLC using ladder diagram.

Q.34 Draw and briefly explain block diagram of DCS.

Q.35 Differentiate between SCADA and DCS system.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 What is SCADA and draw the different layer block diagram with advantages also.

Q.37 Define Counter. Explain Counter instructions with the help of ladder diagram.

Q.38 Explain all timers used in PLC programming with ladder diagram.

Roll No. .....

6th Sem / Branch : IC, EI

Sub.: PLC, DCS & SCADA / Micro-Controller & PLC Based

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 PLC consists of :

a) Input module b) Output module

c) CPU d) All of these

Q.2 Programming Languages of PLC are

a) Ladder Logic

b) Statement List

c) Functional Block Diagram

d) All are Correct

Q.3 Convert Binary No (11001111) into decimal no :

a) (204) b) (205)

c) (206) d) (207)

Q.4 Convert decimal no (33) into Binary No

a) (100010) b) (010001)

c) (100001) d) (011001)

Q.5 What is the full form of SCADA?

a) Supervisory Control and Document Acquisition

b) Supervisory Control and Data Acquisition

c) Supervisory Column and Data Assessment

d) None of these

Q.6 The type of memory which is used to store permanent data

a) ROM b) Both A & C

c) RAM d) None of these

Q.7 An AND function implemented in ladder logic uses.

a) Normally closed contacts in series

b) Normally open contacts in series

c) A single normally closed contact

d) Normally open contacts in parallel

Q.8 Which one of the following is an output device?

a) Motor b) Transducer

c) Both A & B d) Sensor

Q.9 Which of the following is/are of PLC manufacture?

a) ABB b) Siemens

c) Allen Bradley d) All

Q.10 OSR stand for :

a) One series response b) One shot rising

c) Over series response d) Over shot rising

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Define the RAM.

Q.12 HMI stands for.

Q.13 Write name of any two programming languages of PLC.

Q.14 Draw symbol of Off timer.

Q.15 RTU Stands for _____

Q.16 Draw block diagram of SCADA.

Q.17 Draw basic structure of ladder diagram.

Q.18 Electromagnetic relays are better than PLC (True/False)

Q.19 What is relay and how its working?

Q.20 Draw the Ladder diagram of AND GATE and NOT GATE.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 What are the advantages of PLC's over Electromagnetic relays?

Q.22 Write about the programming language used for the PLC programming.

Q.23 Draw the block diagram of PLC and explain about its all blocks.

Q.24 What is SCAN Cycle in PLC and draw and diagram also.

Q.25 Explain about the watch dog timer in PLC's.

Q.26 Explain any two arithmetic instructions using ladder diagram.

Q.27 Define counter in PLC and explain up counter.

Q.28 Draw the ladder diagram of any two comparison instruction used in PLC.