M. Sc. (Electronics) (Sem. IV) (CBCS) Examination

August - 2020

Automation With PLC & SCADA : Paper - 13

(New Course)

Faculty Code : 003

Subject Code : 1154001

Time : $2\frac{1}{2}$ Hours]   [Total Marks : **70**

Instructions : (1)   All questions carry equal marks.

(2)   Figures on right hand side indicate marks.

1   Answer the following : (Any **Seven**)   14

(1)   Give the full name of PLC and SCADA.

(2)   Enlist the PLC applications.

(3)   Write any four reference designators used in PLC.

(4)   Draw NAND and NOR ladder logic diagram.

(5)   Define multiprocessing.

(6)   What is the purpose of the control transformer in machine control system ?

(7)   Draw symbols of selector switch and indicator lamp.

(8)   Draw an electrical symbols of transformer and limit switch.

(9)   Explain pushbutton switch in brief.

(10) What is purpose of the fuse in control transformer?

2   Answer the following : (Any **Two**)

(1)   Define machine control terminology.   **7**

(2)   Write a note on relays and delay on timer.   **7**

(3)   Explain types of memory of the PLC.   **7**

3 Answer the following :

(1) Write a note on fundamental of ladder logic diagram.　**7**

(2) Write in detailed on any data handling ladder logic function.　**7**

OR

3 Answer the following :

(1) Write a short note on bit data files.　**7**

(2) Explain in detail comparison instruction.　**7**

4 Answer the following :

(1) Explain XIC, XIO and OTE instructions with its symbol.　**7**

(2) Draw and describe output latch and unlatch instructions of PLC.　**7**

5 Answer the following : (Any **Two**)

(1) Explain in detail one-shot rising instruction.　**7**

(2) Draw an electrical and ladder logic diagram of the AND-OR logic. Explain each in brief.　**7**

(3) Draw PLC architecture diagram and explain executive memory in brief.　**7**

(4) Draw and describe basic operation of the PLC.　**7**

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