U.S.N

P.E.S. College of Engineering, Mandya - 571 401
(An Autonomous Institution affiliated to VTU, Belagavi)
Sixth Semester, B.E. - Electrical and Electronics Engineering
Semester End Examination; May / June - 2018
Programmable Logic Controller

Time: 3 hrs | Max. Marks: 100

*Note: Answer **FIVE** full questions, selecting **ONE** full question from each unit.*

UNIT - I

1 a.	Describe the operation of PLC with neat diagram and mention its applications.	12
b.	Distinguish between relay and PLC.	8
2 a.	Discuss the sourcing and sinking with neat diagram.	10
b.	What is an IEC standard? Explain in detail to cover the life cycle of PLC.	10

UNIT - II

3 a.	Explain the continuous updating and mass input/output copying methods of processing inputs/outputs with the sequence of PLC operation.	8
b.	Discuss the signal conditioning with common supplies and individual supplies.	8
c.	List the different programming methods.	4
4 a.	When remote connections are required? Explain in detail.	10
b.	Discuss the parallel communication with example of IEEE-488 bus.	10

UNIT - III

5 a.	Build a ladder diagram for the following logic function : i) OR ii) AND iii) NOR iv) NAND	8
b.	Explain the basic operating principle of internal relay.	4
c.	What is latching? Explain with motor ladder diagram.	8
6 a.	Develop a ladder diagram for valve operation and also show in functional block.	10
b.	With neat diagram discuss the sequence of traffic signals.	10

UNIT - IV

7 a.	Name and explain different forms of times with diagrams.	10
b.	Build a ladder diagram for flashing light.	8
c.	Explain the conditional statement.	2
8 a.	Discuss the drum sequences.	8
b.	Explain the requirements of shift registers.	6
c.	Mention the counters applications.	6

UNIT - V

9 a.	Show that how data is moved from one location to another location with ladder diagram.	6
b.	What factors makes SCADA different from other control and monitoring systems.	4
c.	Discuss the remote terminal in details.	10
10 a.	Why an UPS is is important in SCADA system.	6
b.	With neat diagram explain the master control unit.	8
c.	Mention the SCADA applications.	6

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