Total No. of Questions : 8]

SEAT No. :

P569

[Total No. of Pages : 2

[6004]-505
B.E. (Electrical)
PLC AND SCADA
(2019 Pattern) (Semester - VII) (Elective - III) (403143(A))

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.***
2) ***Neat diagram must be drawn wherever it is necessary.***
3) ***Figures to the right side indicate full marks.***
4) ***Assume suitable data if necessary.***

Q1) a) Explain rules of ladder diagram. **[8]**

b) Construct a ladder diagram for Bottle filling plant. **[9]**

OR

Q2) a) Draw ladder diagram for following functional table I1, I2-Inputs C1, C2-Outputs. **[8]**

I1	I2	C1	C2
0	0	1	0
0	1	0	1
1	0	0	1
1	1	1	0

b) Construct a ladder diagram for any one of the following industrial applications. **[9]**

i) ON/OFF Temperature Control.

ii) Elevator Control.

Q3) a) Draw and Explain AC Motor starter. **[9]**

b) Discuss various methods of PID tuning. Select one of them and explain. **[9]**

OR

Q4) a) Explain with necessary diagram overload protection of AC Motor. **[9]**

b) List various speed control method of DC motor. Explain any one method in brief. **[9]**

Q5) a) Define SCADA. State applications of SCADA. Write desirable properties of SCADA. **[8]**

b) Explain how SCADA system is used in Petroleum Refining Process. **[9]**

OR

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Q6) a) Explain how SCADA system is used in Automatic Substation Control. **[9]**

b) Explain generations of SCADA Architectures. **[8]**

Q7) a) What are seven layers of OSI model explain each with function and associated protocol. **[9]**

b) Write note on CIP Protocol. **[9]**

OR

Q8) a) Make list of SCADA protocols and Explain Device Net in detail. **[9]**

b) Explain DCS architecture in detail. **[9]**

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