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SEAT No. :

PD-373

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[6411]-165

B.E. (Robotics & Automation Engineering) (Insem.)

PLC and SCADA Programming

(2019 Pattern) (Semester - VIII) (411509(A))

Time : 1 Hour] *[Max. Marks : 30*

Instructions to the candidates:

1) ***All questions are compulsory i.e. Solve Q.1 or Q.2, Q.3 or Q.4***
2) ***Assume suitable data, if necessary.***
3) ***Figures to the right side indicate full marks.***
4) ***Neat diagrams must be drawn wherever necessary.***

Q1) a) Explain role of Digital to Analog Control and Analog to Digital Control with examples. **[7]**

b) Write Short Notes on. **[8]**

i) Multichannel DAS. ii) Single channel DAS.

OR

Q2) a) What is need for Data Acquisition? Explain concept of Analog DAS and Digital DAS. **[8]**

b) Explain the concept of Signal Amplification with 2 examples. **[7]**

Q3) a) Explain the Principle of operation of PLC and what are the Advantages and Disadvantages of PLC? **[8]**

b) Write Short Note on: **[7]**

i) Common PLC Communication Protocols ii) Registers

OR

Q4) a) Describe all the PLC components - Power Supply, Analog & digital I/O modules, Programming Devices, CPU. **[7]**

b) Explain any one application based on PLC operation. Also explain its components and working, Also Draw Corresponding ladder diagram for it. **[8]**