B.Tech. SEM -VII Electronics 2014 Course (CBCS) : SUMMER - 2019

SUBJECT : PROGRAMMABLE LOGIC CONTROLLERS & APPLICATIONS

Day : Saturday
Date : 11/05/2019

Time : 02.30 PM TO 05.30 PM
Max. Marks : 60

S-2019-2820

N.B.:

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Draw neat and labeled diagram **WHEREVER** necessary.
4) Answers to both the sections should be written in SAME answer book.
5) Assume suitable data if necessary.

Q.1 What are the different types of automation? Discuss the advantages and limitations of automation. **[10]**

OR

What is meant by programmable logic controller? What is the role of PLC in automation? Explain architecture of PLC.

Q.2 What is the need of transmitter? Give a suitable application of 2-wire transmitter. **[10]**

OR

With a suitable application, explain signal conditioning for temperature.

Q.3 A stacking and banding system requires a spacer to be inserted in a stack of panels after 10 sheets are stacked. After 10 more (20 total), the stack is to be banded. Add sensors and assume output devices as required. Draw the ladder diagram. **[10]**

OR

With suitable example explain following instructions:

a) LIM **b)** ADD **c)** BSL **d)** CTU **e)** MUL

Q.4 What are the different PLC programming standard (IEC 61131)? Explain any two in detail. **[10]**

OR

With the help of block diagram, explain Human machine interface in detail.

Q.5 With the help of block diagram explain SCADA. Give a suitable example. **[10]**

OR

What is DCS? Justify the significance of DCS in automation industries.

Q.6 What is a CNC machine? List the advantages and applications of CNC machines. **[10]**

OR

With reference to networking of PLCs, explain the following protocols:

a) Profibus **b)** AS-I interface

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