BACHELOR OF TECHNOLOGY (C.B.C.S.) (2014 COURSE)
B.Tech.Sem - VII ELECTRONIC : WINTER- 2022
SUBJECT : PROGRAMMABLE LOGIC CONTROLLERS & APPLICATIONS

Day : Friday   Time : 02:30 PM-05:30 PM

Date : 09-12-2022   **W-13394-2022**   Max. Marks : 60

N.B.:
1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Draw neat and labeled diagram **WHEREVER** necessary.
4) Assume suitable data if necessary.

Q.1   With a neat diagram explain the cascade control for any practical application. **[10]**

OR

What is the necessity of PLC? Justify the role of PLCs in automation in **[10]** industries.

Q.2   What is a transmitter? Explain with neat diagram the 2-wire and 3-wire **[10]** transmitter.

OR

Smart transmitter plays important role in automation industries. Justify by **[10]** giving suitable example.

Q.3   How will you interface input devices to PLC through the input module? With **[10]** help of diagram, show the connection of input switches, sensors to PLC with example.

OR

Draw the ladder diagram for following: **[10]**
In a stacking system,
i) In a stock of panels, spacer is inserted at 10 sheets.
ii) After 10 more sheets, the stack in banded.
iii) A 2-second delay is necessary to pull back the bander.
iv) Spray colour to be applied to stack.
v) Repeat procedure

Q.4   What are the application interfaces required for   i) RFID   ii) Bar code **[10]**

OR

What are the different methods of programming PLC? Explain instruction list **[10]** (IL) with example.

Q.5   With neat diagram explain HMI. **[10]**

OR

What is the role of SCADA in automation? Explain RTU and MTU. **[10]**

Q.6   Describe the applications and advantages of CNC machine in manufacturing. **[10]**

OR

Write in brief about: **[10]**
i) AS – I interface
ii) Control Net

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