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**4706**  
**BOARD DIPLOMA EXAMINATION, (C-14)**  
**MARCH /APRIL-2019**  
**DAEIE-SIXTH SEMESTER EXAMINATION**  
**INDUSTRIAL AUTOMATION**

Time: 3 Hours

Max. Marks: 80

**PART-B**

**10X3=30M**

**Instructions :** 1) Answer **all** questions.

2) Each question carries **Three** marks.

3) Answer should be brief and straight to the point and shall not exceed simple sentence

- 1) Define PLC.
- 2) State the importance of Automation.
- 3) Draw the ladder diagram for AND gate.
- 4) Define Ladder diagram.
- 5) Draw the ladder diagram for Water level controller.
- 6) Define Robot.
- 7) List three applications of CNC machine.
- \* 8) Mention three specifications of Data logger.
- 9) Mention the three main components of a SCADA.
- 10) List the commonly used processors in embedded systems.

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**PART-B**

**5X10=50M**

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**Instructions:** 1) Answer any **five** questions.  
2) Each question carries **ten** marks.  
3) The answer should be comprehensive and the criteria for valuation is content but not the length of the answer.

- 11) Explain the interfacing of PLC with PC and list the manufactures of PLC.
- 12) a) Explain the concept of Relay based control panel. 5M  
b) Draw the block diagram of PLC. 5M
- 13) Draw and explain ladder diagram for Traffic light controller.
- 14) Explain Timers T ON, T OFF and Retentive timer with ladder diagrams.
- 15) a) Explain the role of computers in process control. 6M  
b) List any four applications of Data logger. 4M
- 16) Explain Data acquisition system with block diagram.
- 17) Explain the creation of graphic symbols using Graphic Display builder in SCADA.
- 18) Explain serial communications using USB / CAN Bus.

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