C14–AEI–**602**

# 4706

**BOARD DIPLOMA EXAMINATION, (C–14)**
**SEPTEMBER/OCTOBER - 2020**
**DAEIE—SIXTH SEMESTER EXAMINATION**

INDUSTRIAL AUTOMATION

*Time* : 3 hours ]　　　　　　　　　　　　[ *Total Marks* : 80

**PART—A**　　　　　　　　　　3×10=30

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

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

**1.** Compare relay based and PLC based control panel.

**2.** List any three manufactures of PLC.

**3.** Draw ladder diagrams for AND gate.

**4.** List any three types of PLC programming.

**5.** Define ladder diagram.

**6.** Mention any three specifications of a data logger.

**7.** List any three applications of a Robot.

**8.** Mention any three applications of CNC Machine.

**9.** List any three main components of a SCADA.

**10.** Mention any three components of embedded system.

***Instructions*** **:** (1) Answer *any* **five** questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

**11**. *(a)* List different types of PLCs based on I/O's, memory and configuration.

*(b)* State the importance of automation.

**12.** Explain the block diagram of PLC.

**13.** Explain ladder diagrams of arithmetic and comparison instructions.

**14.** Draw ladder diagrams for Traffic lights.

**15.** Explain the block diagram of direct digital control system.

**16.** Explain about CNC machine.

**17.** Explain interfacing of SCADA with PLC.

**18.** Explain the hardware and software architectures of embedded system.

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