[4759]-52

B.E. (Mechanical)

INDUSTRIAL AUTOMATION (Open Elective)

(2008 Course) (Semester - II) (Elective - IV) (402050D)

Time : 3 Hours]   *[Max. Marks :100*

Instructions to the candidates:

1)   Answer any three questions from each section.

2)   Answers to the two sections should be written in separate books.

3)   Neat diagrams must be drawn wherever necessary.

4)   Figures to the right indicate full marks.

5)   Use of lagarithmic tables, slide rule, Mollier charts, electronic pocket calculator is allowed.

6)   Assume suitable data if necessary.

SECTION - I

Q1) a)   Explain evolution and benefit of automation?   **[10]**

   b)   Discuss the various types of automation?   **[8]**

OR

Q2) a)   What is automation? Write its application in industries?   **[10]**

   b)   Explain introduction to automation tools?   **[8]**

Q3) a)   What is PLC Write in detail review of PLC block diagram?   **[8]**

   b)   Explain in detail PLC component?   **[8]**

OR

Q4) a) Explain in detail various function blocks? [8]

b) Why there is need of DCS? [8]

Q5) a) Write in detail development of manufacturing system? [8]

b) Explain in detail AGV? [8]

OR

Q6) a) What is FMS? Explain it in details? [8]

b) Explain in detail CIM? [8]

SECTION - II

Q7) a) What is SCADA? Write its features and configuration? [10]

b) Explain in detail HMI? [8]

OR

Q8) a) Write in detail Database management? [10]

b) Explain the need of historical Database management? [8]

Q9) a) What is design for manufacturing? Write its steps in detail? [8]

b) Explain in detail DFE method and its application. [8]

OR

*Q10)*a) What is concept of drives? Explain its types in detail? [8]

b) Explain in detail BLDC and their control? [8]

*Q11)*a) Write short notes on: **[8]**

   i)   Material Transfer.

   ii) Concept Machine loading and unloading.

   b) Write in detail RCC.   **[8]**

                              OR

*Q12)*a) Distinguish between NC and CNC.   **[8]**

   b) What is importance of Assembly automation?   **[8]**

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