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**Question Paper Code : 91476**

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2014.

Seventh Semester

Electronics and Instrumentation Engineering

EI 2401/ EI 71/ 10133 EI 701— INDUSTRIAL DATA NETWORKS

(Common to Instrumentation and Control Engineering)

(Regulation 2008 / 2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the limitations of using a circuit-switching network for data transmission?
2. What do you mean by ISO/OSI?
3. Differentiate Intranet and Internet.
4. What are the functions of router?
5. Write any two HART commands with their functions.
6. Define Interchangeability.
7. List two advantages of foundation field bus.
8. List any two applications of MODBUS and PROFIBUS.
9. What is the function of radio modem?
10. Differentiate radio and wireless communication.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Draw and explain different network topologies. (8)  
(ii) Explain TCP / IP protocol. (8)

Or

- (b) (i) Explain the concept of CSMA / CD. (8)  
(ii) Explain HLDC. (8)
12. (a) (i) Compare ETHERNET and ARCNET. (8)  
(ii) Explain Bridges and Gateways. (8)

Or

- (b) What are the requirements for networks used for control? Explain in detail.
13. (a) (i) Explain in detail about HART communication protocol. (8)  
(ii) List the applications of HART. (8)

Or

- (b) (i) Draw and explain field bus architecture. (8)  
(ii) Write short notes on OPC. (8)
14. (a) (i) Explain the structure of MODBUS protocol. (8)  
(ii) Write short notes on classification of profibus. (8)

Or

- (b) (i) Explain profibus communication model. (8)  
(ii) Write short notes on features of MODBUS. (8)
15. (a) Explain about 10 MPPS Ethernet and 100 MPPS Ethernet.

Or

- (b) Explain the components of radio links and radio modems.