**18EID41**

**Hall Ticket Number:**

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| **IV/IV B.Tech (Regular/Supplementary) DEGREE EXAMINATION** | | | |
| **November,2022** | **Electronics & Instrumentation Engineering** | | |
| **Seventh Semester** | **Data Communications** | | |
| **Time:** Three Hours | | **Maximum: 5**0 Marks | |
| *Answer Question No. 1 Compulsorily.* | | | (10X1 = 10 Marks) |
| *Answer* ***ANY ONE*** *question from each Unit.* | | | (4X10=40 Marks) |

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| 1. | a) | What are the data link layer protocols? | CO1 (BL1) | |  |
|  | b) | What is the difference between the OSI Model and TCP/IP Model? | CO1 (BL1) | |  |
|  | c) | What is the need of bridge? | CO2 (BL1) | |  |
|  | d) | What is the difference between a Bridge and a router? | CO2 (BL1) | |  |
|  | e) | What is MODBUS? | CO3 (BL1) | |  |
|  | f) | What is a Fieldbus? | CO3 (BL1) | |  |
|  | g) | What is the need of MODEM? | CO4 (BL1) | |  |
|  | h) | What are the different types of Ethernet standards? | CO4 (BL1) | |  |
|  | i) | What is an OPC? | CO4 (BL1) | |  |
|  | j) | What is the purpose of the jam signal in CSMA/CD? | CO1 (BL1) | |  |
| **Unit - I** | | | | | |
| 2. | a) | Draw and explain functionalities of different layers of TCP/IP. | CO1 (BL2) | **10M** | |
|  |  | **(OR)** |  |  | |
| 3. | a) | Describe in detail the CSMS/CD procedure with a neat block diagram. | CO1 (BL2) | **8M** | |
|  | b) | What is token passing? | CO1 (BL1) | **2M** | |
| **Unit - II** | | | | | |
| 4. | a) | Discuss the functionality of bridges,Routers and gate ways. | CO2 (BL2) | **5M** | |
|  | b) | Describe the RS-485 serial communication concepts. | CO2 (BL2) | **5M** | |
|  |  | **(OR)** |  |  | |
| 5. | a) | Compare and contrast RS-232 and RS-485. | CO2 (BL2) | **4M** | |
|  | b) | Discuss the functionality of anyone Routing protocol. | CO2 (BL3) | **6M** | |

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| **Unit - III** | | | | |
| 6. | a) | What are the two types of frame formats in HART Protocol? Discuss | CO3 (BL2) | **6M** |
|  | b) | What are the benefits of Fieldbus? | CO3 (BL2) | **4M** |
|  |  | **(OR)** |  |  |
| 7. | a) | How MODBUS works? Explain in detail. | CO3 (BL2) | **5M** |
|  | b) | Explain in detail HART communication protocol. | CO3 (BL2) | **5M** |
| **Unit - IV** | | | | |
| 8. | a) | What is an Ethernet in the computer network? | CO4 (BL2) | **2M** |
|  | b) | Explain the concepts of 10 Mbps and 100 Mbps Ethernet standards. | CO4 (BL3) | **8M** |
|  |  | **(OR)** |  |  |
| 9. | a) | Explain different components of Radio link. | CO4 (BL2) | **6M** |
|  | b) | Briefly introduce radio MODEMs. | CO4 (BL2) | **4M** |

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