

M.E. First Semester (Information Technology) (Full Time) (C.G.S.)
13420 : Net Centric Computing : 1 NMEF 3

P. Pages : 2

Time : Three Hours



AU - 3303

Max. Marks : 80

Notes : 1. Assume suitable data wherever necessary.

1. a) A communication channel must support upto a 10 kbps data rate. The channel has signal to noise ratio of 50 decibels. What is the maximum bandwidth in hertz for the channel? **8**
- b) Explain the following terms. **6**
- i) Network Addressing.
 - ii) Routing
 - iii) Reliability.

OR

2. a) A line has signal to noise ratio of 1000 and a bandwidth of 4000 kHz. What is the maximum data rate supported by this Line. **8**
- b) Differentiate between circuit switching and packet switching. **6**
3. Assume a CRC generator polynomial of $x^5 + x^4 + x^2 + 1$ is used to provide error checking. Compute the bit stream that will be transmitted if a message 1010001101 is sent. Also verify that the frame received at the receiving end is valid or not. **13**

OR

4. a) What is flow control? What is the effect of flow control on network? **7**
- b) Ethernet 802.3 is based on 1 persistent CSMA/CD. Explain what this means. **6**
5. a) Give the TCP frame format and also explain the fields in it. **7**
- b) Explain the difference among Layer 2, Layer 3 and Layer 4 switching. **6**

OR

6. a) Explain the manner in which internet working is accomplished at each of the bottom three layers of the OSI model. **7**
- b) Explain What is VPN and its strategies. **6**
7. a) Explain the manner in which reservation and priority operate within a token ring network. **7**
- b) Explain in brief the major differences between Ethernet V.2.0 and IEEE 802.3. **7**

OR

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|----|-----|--|---|
| 8. | a) | Compare and contrast | 8 |
| | i) | Active monitor and standby monitors. | |
| | ii) | Token ring reservation and priority bits. | |
| | b) | Explain full duplex ethernet and Gigabit ethernet. | 6 |
| 9. | a) | Explain frame format of ISDN's Link Access protocol-D channel. | 7 |
| | b) | Explain how frame relay handles congestion control. | 6 |

OR

- | | | | |
|-----|----|--|---|
| 10. | a) | In what ways does FDDI's counter rotating rings promote network reliability. | 7 |
| | b) | Compare and contrast PVC and SVC. | 6 |
| 11. | a) | Explain with diagram ATM cells. Also give advantages. | 7 |
| | b) | Compare and contrast UMDS and frame relay. | 6 |

OR

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|-----|----|---------------------------------|---|
| 12. | a) | What is SIP level 3 PDU? | 7 |
| | b) | Explain in detail DSL services. | 6 |

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