

Roll No. 5611016

Printed Pages : 2

**8502**

BT-5/D-13

## COMPUTER NETWORKS

Paper-CSE-302

*Time allowed : 3 hours]*

*[Maximum marks : 75*

*Note : Attempt five questions taking at least one question from each unit.*

### Unit-I

1. (a) What is ISDN ? How much bandwidth is available in ISDN ? How ? Differentiate between ISDN and BISDN. 7
- (b) Explain the roles played by data link-layer and transport layer in OSI model. 4
- (c) Explain the concept of encapsulation. A system has an n-layer protocol hierarchy. Applications generate messages of length M bytes. At each of the layers, an h-byte header is added. What fraction of the network bandwidth is filled with headers ? 4
2. (a) Explain the working of SNMP. 9
- (b) Describe any three message types available in SNMP. 6

### Unit-II

3. (a) Consider building a CSMA/CD network running a 1 Gbps over a 1-km cable with no repeaters. What is the minimum frame size ? 3
- (b) Explain following terms DCF, PCF, DIFS, Fragment Burst, NAV. 5
- (c) Explain the spanning tree bridge algorithm. 7

**8502**

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4. (a) What conditions would have to hold for a corrupted frame to circulate forever in a token ring without a monitor ? How does monitor fix this problem ? 5
- (b) What is HDLC protocol ? How does it operate ? Give its configurations, frame and control field formats. 10

### Unit-III

5. (a) Give the structure of ATM cell header. An IP packet consists of 20 bytes of header and 1500 bytes of payload. Now suppose that the packet is mapped into 53-byte ATM cells. How much of the resulting cell stream is header overhead ?
- (b) Describe some congestion control techniques. 8,7
6. Write short notes on :
- (i) Resource Reservation
  - (ii) Router
  - (iii) Fair Queuing. 3x5

### Unit-IV

7. (a) Describe the connection establishment procedure of TCP. 8
- (b) Explain TCP flow control and TCP Fast Retransmit. 7
8. (a) Explain the concept of subnetting. Explain with the help of example. 8
- (b) What are different messages in DHCP ? Explain working of DHCP. 7