00138

ADIT/BIT PROGRAMME

Term-End Examination

June, 2010

CST-202 : DATA COMMUNICATION AND COMPUTER NETWORKING

Time : 3 hours *Maximum Marks : 75*

Note : *There are **two** sections in this paper. All questions from Section-**A** are **compulsory**. Answer any **three** questions from **Section-B**. All multiple choice questions carry **one** mark each.*

SECTION-A

1. IEEE 802.5 standard defines a _____ network.

(a) Star (b) Ring

(c) Bus (d) DQDB

2. X.25 is a _____ switching protocol used in a WAN.

(a) Circuit (b) Packet

(c) Data (d) Message

3. Primary Rate Interface of ISDN has _____ channels.

(a) 2 B+1 D (b) 23 B+1 D

(c) 23 B+23 D (d) 23 D+1 B

4. Routing is done at _____ layer in the OSI model.

(a) Data Link (b) Physical

(c) Network (d) Application

5. FECN and BECN are fields of frame relay address format, which are used for _____.

(a) Acknowledgement

(b) Bit stuffing

(c) Multiplexing

(d) Congestion Control

6. Ethernet uses _____ topology.

(a) Ring (b) Mesh

(c) Tree (d) Bus

7. 191.23.21.54 IP address belongs to _____ class.

(a) B (b) C

(c) D (d) A

8. In OSI model, an Amplifier operates at _____ layer.

(a) Transport (b) Application

(c) Physical (d) Network

9. What is the size of CRC field in token ring frame ?

(a) 3 bytes (b) 4 bytes

(c) 5 bytes (d) 6 bytes

10. In RJ-45 connecters, RJ stands for :

(a) Restricted Jack (b) Resolution Jack

(c) Registered Jack (d) Remote Jack

11. (a) Write ***any three*** differences between each of the following : **3x5=15**

(i) Gateway and Router

(ii) Token Ring and token Bus

(iii) X . 25 and Frame Relay

(iv) Services and Protocols

(v) FSK and PSK

(b) What are the two methods for coordinating signal timings ? Explain three techniques of synchronous communication. **5**

SECTION-B

*Answer **any three** Questions from this section.*

12. (a) What is microwave transmission ? Write any two advantages and two disadvantages of the microwave transmission system. **6**

(b) Explain the difference between LAN, MAN and WAN with respect to their topology, transmission rate and error rates. **9**

13. (a) How does the priority management scheme work in token ring LAN ? Also, Explain how a token ring LAN can function even if a "node" or a "channel" fails. **6**

(b) Write any three situations where congestion can occure in network. What are the different techniques, which network designer can use for congestion avoidance ? If congestion occures, how is it dealt ? **9**

14. (a) What are two sublayers of data link layer ? Why are these sublayers needed ? Also, compare the functionalities and characteristics of these sublayers with each other. **8**

(b) How are new tokens generated on an FODI network ? What advantages does this method have when adding or deleting stations to /from the network ? **7**

15. (a) What are the disadvantages of circuit switching ? Compare it with packet and message switching in detail. Also, write, which of these switching you prefer for telephone networks and why ? 8

(b) How do you define channel capacity ? How is channel capacity related to bandwidth ? Write the mathematical relationship between them for noiseless channels. 5

(c) What is 10 Base 5 ? Write its data rate and segment length. 2
