Reg. No. : | | | | | | | | | | | |

C 3205

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2008.

Sixth Semester

(Regulation 2004)

Electronics and Communication Engineering

CS 1302 — COMPUTER NETWORKS

(Common to B.E. (Part-Time) Fifth Semester Regulation 2005)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Mention the components of a data communication system.

2. What are the advantages of wireless media over wired media?

3. What is the level of reliability provided by the simple parity scheme in error detection?

4. Whether collisions occur in IEEE 802.5 LAN? Justify your answer.

5. What is meant by loopback address in IPv4?

6. List down the reasons for doing subnetting in IP networks.

7. Write short notes about the multiplexing and demultiplexing operations of the transport layer.

8. Mention any four QoS metrics.

9. What are the limitations of symmetric cryptosystems?

10. Differentiate between FTP and TFTP protocols.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain the general layered architecture model of the network communication software. (8)

(ii) Compare and contrast ISO/OSI and TCP/IP reference models. (8)

Or

(b) (i) Illustrate the functioning of an optical fiber transmission system in terms of the emitter, fiber and detector. (8)

(ii) Describe the functioning of a microwave based communication system. (4)

(iii) Discuss the advantages and disadvantages of microwaves over radio waves. (4)

12. (a) (i) Discuss the limitations of stop and wait protocol. (4)

(ii) Explain the window maintenance at the sender and receiver in the sliding window protocol. (6)

(iii) Compare and contrast the go back-N and selective repeat variants of the sliding window protocol. (6)

Or

(b) (i) Explain how collisions are detected and resolved in the CSMA/CD protocol in the Ethernet LANs. (8)

(ii) Explain how collisions are avoided and tokens are managed in the Token Ring LANs. (8)

13. (a) (i) Explain the distance vector routing algorithm with a sample topology. Discuss the problems faced by this algorithm and the possible solutions. (8)

(ii) Explain the link state routing algorithm with a sample topology. Discuss the advantages and disadvantages of this algorithm over distance vector algorithm. (8)

Or

(b) (i) Explain the packet forwarding algorithm that supports subnetting followed by IP. (8)

(ii) Discuss the temporary solutions that have been provided by IPv4 to solve the problem of address space exhaustion. (8)

14. (a) (i) Explain the connection establishment and connection termination procedures followed in the transport layer protocol. (8)

(ii) Explain the role of sockets in client/server communication. (8)

Or

(b) (i) Draw the UDP header and explain its fields.

(ii) Explain the pseudo header included in the TCP checksum computation.

15. (a) Explain the architecture, resolving of domain names and other services provided by Domain Name System. (16)

Or

(b) Explain the architecture, client-server interaction in fetching the web pages and HTTP of World Wide Web. (16)
