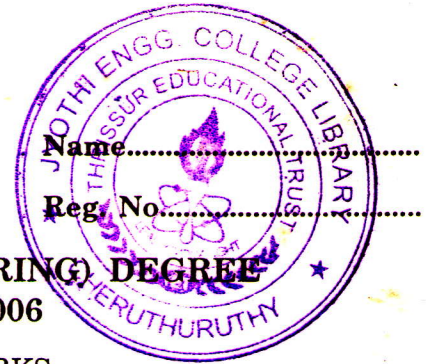**D 26549**

(Pages : 2)

SEVENTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, DECEMBER 2006

EE 2K 705 E—COMPUTER NETWORKS

Time : Three Hours

Maximum : 100 Marks

Answer **all** *questions.*

Section I

1. List the four main types of network topology used for LANs and explain their operations.

2. Mention the advantages of a bridge relative to a repeater.

3. Discuss the services of ISDN.

4. Explain the Internet datagram format.

5. Explain how connections are established at the transport layer in TCP/IP.

6. Discuss the services of the transport layer.

7. Explain the following terms :

    (a) Plaintext.   (b) Ciphertext.

    (c) Listening.   (d) Masquerading.

8. Explain in brief the directory service model.

(8 × 5 = 40 marks)

Section II

9. (a) Describe the operation of the FDDI high-speed LAN.   (9 marks)

    (b) Explain the frame format of the token-ring network.   (6 marks)

Or

10. (a) Describe the operation of the token bus network in detail.   (10 marks)

    (b) Describe the operation of a transparent bridged LAN in brief.   (5 marks)

11. Discuss in detail the internet working issues.   (15 marks)

Or

12. (a) Discuss the architecture of a private network.   (5 marks)

    (b) Sketch a time sequence diagram to illustrate the sequence in which PDUs are exchanged to implement the establishment of a virtual circuit.

(10 marks)

Or

Turn over

13. (a) With a sketch, explain the normal and abnormal connection termination alternatives of the TCP.

(10 marks)

(b) Describe the UDP datagram header format.

(5 marks)

Or

14. (a) Explain TCP/IP with associated PDV's and interlayer address selectors.

(10 marks)

(b) Explain the flow control mechanism used in TCP.

(5 marks)

15. (a) With the aid of a time sequence diagram, illustrate the user service primitives in the basic combined subset of the session layer.

(8 marks)

(b) Explain any *one* method of data compression in detail. State the need for data compression.

(7 marks)

Or

16. (a) Explain the principle of operation of a two-phase commit protocol with error recovery.

(10 marks)

(b) Explain the client-server model.

(5 marks)

[4 × 15 = 60 marks]