**D 40802**

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Name.....................

Reg. No...................

# SEVENTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION DECEMBER 2007

## EE 2K 705 E—COMPUTER NETWORKS

### (New Scheme)

Time : Three Hours

Maximum : 100 Marks

## Section I

1. Describe the principle of operation of the CSMA/CD protocol.

2. Explain in brief the wireless LAN protocol.

3. Explain the structure of an IP datagram.

4. Discuss the architecture of private networks.

5. Explain the service definition of TCP in brief.

6. Explain the selective repeat protocol.

7. With the aid of an example explain the principle of operation of the RSA algorithm.

8. Explain the Client–server model.

(8 × 5 = 40 marks)

## Section II

9. (a) Explain the ring management procedures in a token ring network. (10 marks)

   (b) Differentiate datagrams and virtual circuits. (5 marks)

*Or*

10. (a) Explain the architecture and the principle of operation of a bridge. (12 marks)

    (b) Explain the terms : (i) token-holding time ; (ii) Minimum latency time ; (iii) token rotation time.

(3 marks)

11. (a) Illustrate the role of a subnet router, interior gateway and exterior gateway. (8 marks)

    (b) Discriminate between the reset and restart error recovery procedures used in the packet layer of X.25.

(7 marks)

*Or*

12. (a) Discuss the ISDN user services. (6 marks)

    (b) Discuss the message types associated with the ICMP and explain the various functions associated with the protocol.

(9 marks)

**Turn over**

13.  (a)  Produce a sketch showing the fields that make up the header of a TCP segment and explain the function of each field.

(8 marks)

(b)  Explain the service primitives associated with the reliable stream service.        (7 marks)

Or

14.  (a)  Explain the normal and forced data transfer modes of TCP and segment exchanges between two TCPs with a neat sketch.

(10 marks)

(b)  Explain congestion control in TCP.                                              (5 marks)

15.  (a)  Explain the structure and operation of the domain name system used in TCP/IP.

(10 marks)

(b)  Explain the meaning of the term implicit, explicit tag in relation to ASN.1.        (5 marks)

Or

16.  (a)  List the service primitives associated with the remote operation service element and explain the use of the parameters associated with each primitive.

(10 marks)

(b)  What is concurrency ? How is it recovered ?                                     (5 marks)

[4 × 15 = 60 marks]