Bachelor of Computer Applications 5th Semester
1128
COMPUTER NETWORKS
Paper : BCA-16-501

Time Allowed : Three Hours]   **[Maximum Marks : 65**

Note :— Attempt **five** questions in all, including Question No. **9** (Unit-**V**) which is compulsory and selecting one question each from Units **I-IV**.

UNIT—I

1. (a) Describe the classification of Networks based on Scale.

   (b) Explain the OSI Reference Model with functioning of each layer.   6,7

2. (a) Write a detailed note on following transmission media :

   (i) Twisted pair

   (ii) Co-axial cable

   (b) Explain in detail :

   (i) Circuit Switching

   (ii) Message switching.   6,7

UNIT—II

3. (a) What are the functions of data link layer ? Explain the design issues related to services provided to network layer.

(b)   What is framing ? Explain the various methods of framing and what are the problems associated with each method.

6,7

4.   Explain the following Error Detection and Correction codes :

(i)   Hamming Code

(ii)   Cyclic Redundancy Code.   13

UNIT—III

5.   What are the functions of Network Layer ? Explain the Design issues associated with network layer.   13

6.   (a)   Explain the Shortest Path routing algorithm. Illustrate with example.

(b)   What are Principles of Congestion Control ? Explain Leaky Bucket Algorithm.   6,7

UNIT—IV

7.   (a)   Describe the Architecture of Email System.

(b)   How is information found on World Wide Web ?   6,7

8.   (a)   Write a note on Domain name System.

(b)   Explain the Encyption Model and methods of encryption used in it.   6,7

UNIT—V (Compulsory Question)

9.   (a)   List the factors why companies opt for networks.

(b)   List advantages of fibre over copper wire.

(c)   Distinguish between Broadcast and Point-to-Point networks.

(d)   What is the function of Internal Layer of TCP/IP Reference Model ?

(e)   What is Hamming Distance ?

(f)   Draw Internet Protocol Header.   13