

Bachelor of Computer Applications 5th semester

Paper-BCA-16-501 : Computer Networks

Time : Three Hours]

[Maximum Marks : 45

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.
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.

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.
4. Explain the following Error Detection and Correction codes:
(i) Hamming Code
(ii) Cyclic Redundancy Code.

UNIT-III

5. What are the functions of Network Layer ? Explain the Design issue associated with network layer.
6. (a) Explain the Shortest Path routing algorithm. Illustrate with example
(b) What are Principles of Congestion Control ? Explain Leaky Bucket Algorithm

UNIT-IV

7. (a) Describe the Architecture of Email System.
(b) How is information found on World Wide Web
8. (a) Write a note on Domain name System.
(b) Explain the Encryption Model and methods of encryption used in it.

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.