

2021  
Bachelor of Computer Application  
Fifth Semester  
BCA-16-501: Computer Networks

Time allowed: 3 Hours

Max. Marks: 65

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

x-x-x

**UNIT – I**

- I. What are the uses of computer networks? Explain various topologies used in computer networks with advantages and limitations of each. (13)
- II. Discuss the concept of multiplexing. Explain various types of multiplexing in detail. (13)

**UNIT – II**

- III. List major design issues of data link layer. Discuss data link protocols for noisy and noiseless channels. (13)
- IV. Explain the significance of error detection and error correction codes for data transfer. Construct the hamming code for bit sequence 1001110. (13)

**UNIT – III**

- V. Discuss various IP address classes highlighting the concept of sub netting and subnet mask. (13)
- VI. Explain the principles of congestion control. Discuss working of leaky bucket and token bucket algorithms. (13)

**UNIT – IV**

- VII. Explain the architecture and services of electronic mail in detail. Write a note on MIME. (13)
- VIII. Write note on:-
  - a) SMTP
  - b) POP
  - c) DNS(13)

P.T.O.

(2)

**UNIT – V**

IX. Answer the following:-

- a) What is switching? (3)
- b) Define ISDN. (2)
- c) Differentiate between static and dynamic channel allocation. (2)
- d) Write a note on flooding. (2)
- e) What is the significance of HTTP? (2)
- f) Define FTP. (2)

x-x-x