

Roll No.

Total Pages : 03

BT-6/J-25

46166

COMPUTER NETWORKS

PC-CS-304A

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. (a) Identify and explain the five components of data communication system. 7
- (b) Explain four basic network topologies and cite their advantages. 8
2. (a) Explain about the Guided transmission Medias in computer networks ? Provide a comparative analysis of three medias. 8
- (b) Name and explain three transmission impairments. 7

Unit II

3. (a) What are different services provide by data link layer ? Explain in brief about different framing methods. 8

- (b) Discuss about : (a) GO BACK N ARQ (b) Selective repeat ARQ. 7
4. (a) Explain in detail about Random Access protocols :
(i) ALOHA
(ii) CSMA 9
- (b) Explain the following networking devices in detail : 6
- (i) Switch
(ii) Router
(iii) Bridge
(iv) Gateway
(v) Repeater
(vi) Hub

Unit III

5. (a) State the major difference between distance vector routing and link state routing. 9
- (b) Explain the function of Address Resolution Protocol and Reverse Address Resolution Protocol. 6
6. (a) A block of addresses is granted to a small organization. We know that one of the addresses is 205.16.37.39/28.
- (i) What is the first address in the block ?
(ii) Find the last address for the block
(iii) Find the number of addresses. 6

- (b) Explain the difference between IPV4 and IPV6. What is the need for IPV6 Addressing ? How multicast address is distinguished in IPV4 and IPV6 ? 9

Unit IV

7. (a) Discuss about the following :
- (i) Concept of leaky bucket algorithm ?
 - (ii) Token bucket algorithm with neat diagram. 8
- (b) Differentiate between TCP and UDP by describing their characteristics. 7
8. (a) Give a comparison between node-to-node, host-to-host and process-to-process delivery. 5
- (b) Write short notes on any *five* of the following :
- (i) Domain Name Space (DNS)
 - (ii) SNMP
 - (iii) EMAIL & SMTP
 - (iv) File Transfer Protocol (FTP),
 - (v) WWW & HTTP
 - (vi) Firewalls 10

