

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

September / October 2023 Supplementary Examinations

Programme: B.E.

Branch: Electronics and Communication Engineering

Course Code: 16EC7DCDCN

Course: Data Communication Networks

Semester: VII

Duration: 3 hrs.

Max Marks: 100

Date: 19.09.2023

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

UNIT - I

- 1 a) Differentiate between IPV6 & IPV4 addressing. **06**
- b) Consider in your organisation you have a big single network having IP Address 200.1.2.0. If You are asked to divide this network into 4 subnets show how you would create sub-netting. **08**
- c) Consider the following Subnet Mask 225.225.225.224. Find 1) Number of host per subnet; 2) Number of subnets if subnet mask belongs to Class A; 3) Number of Subnets if subnet mask belongs to Class B; 4) Number of Subnets if subnet mask belongs to Class C; 5) Number of Subnets if total 10 bits are used for the global network ID. **06**

UNIT - II

- 2 a) Use Dijkstra's algorithm to find the shortest path tree and the forwarding table for node 0 in the figure 2a. to all other nodes. **10**

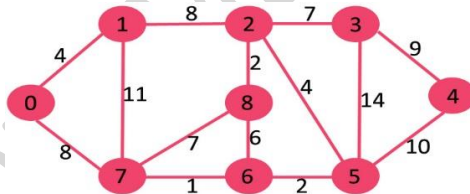


Figure 2a

- b) Differentiate between direct and indirect delivery. **04**
- c) OSPF has four types of links defined to establish connection between routers what are they and what is the basis for their classification? **06**

OR

- 3 a) Show with illustration the problem with Distance Vector Routing Protocol also explain how this can be avoided with Split Horizon? **08**
- b) Suggest a Protocol for an autonomous system and show how the protocol helps in the formation of the Group Shared Tree using Core as the root of the tree. **07**
- c) Differentiate between Routing Information Protocol and Broader Gateway Protocol. **05**

UNIT - III

- 4 a) Discuss in detail the two models designed to provide quality of service in the Internet. **10**
b) With a neat diagram explain all the fields of the UDP datagram format along with the pseudoheader. **10**

OR

- 5 a) Compare the FIFO, Priority, Weighted Fair scheduling technique used to handle different flow in a fair manner. **10**
b) Discuss the Token Bucket Scheme for Traffic Shaping and explain its effect. **10**

UNIT - IV

- 6 a) Demonstrate the procedure followed in transposition cipher to encrypt a message. Assume the message is "BMS COLLEGE OF ENGINEERING DEPARTMENT OF ECE- 16EC7DCDCN" and the key is plain text: Reverse whole text; cipher text: Remove all characters not in alphabet and spaces. Put the Cipher text in block of five. **08**
b) SIP is a text based protocol identify all messages defined used to establish, terminate a multimedia session. **05**
c) Show the operation of telephone communication using H.323 with example. **07**

UNIT - V

- 7 a) With diagram show the architecture design of WWW and also explain how web pages are accessed. **07**
b) Explain the concept of tunnelling in Overlay Network. **07**
c) Discuss how FTP is different from other client server application to establish connection between the hosts? **06**
