

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
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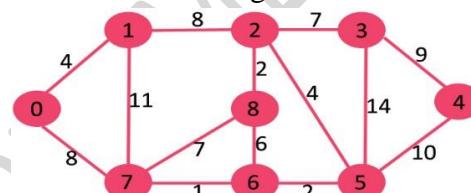


Figure 2a

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**
