Sardar Patel Institute of Technology
Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058-India
(An Autonomous Institute Affiliated to University of Mumbai)

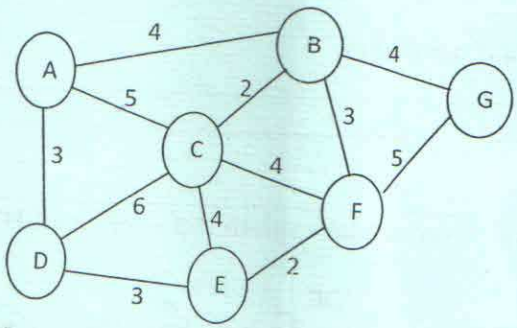
End Semester Examination

May 2019

Max. Marks: 60 | **Duration: 3 Hours**
Class: TE | **Semester: VI**
Course Code: ET62 | **Branch: EXTC**
Name of the Course: Computer Communication Networks

Instructions:
(1) **All Questions are Compulsory**
(2) **Draw neat diagrams**
(3) **Assume suitable data if necessary**

Question No.		Max. Marks	CO
Q.1 (a)	With the help of client server model, explain the working of HTTP. OR With the help of a neat diagram, explain how the communication between client and server happens in FTP.	6	CO1
Q.1 (b)	Differentiate between: 1. Source routing versus Hop-by-Hop routing 2. Link-State routing versus Distance-vector routing.	6	CO1
Q2 (a)	With the help of a diagram, explain the seven layer OSI model, stating the function of each layer. Why was this model not practically implemented?	6	CO1
Q2 (b)	Compare the features of IPV6 and IPV4.	6	CO2
Q3 (a)	An organization is granted the block 130.56.0.0/16. The administrator wants to create 1024 subnets. a. Find the subnet mask. b. Find the number of addresses in each subnet. c. Find the first and the last address in the first subnet. d. Find the first and the last address in the last subnet (subnet 1024). OR An ISP is granted a block of addresses starting with 130.56.0.0/22. The ISP wants to distribute these blocks to 100 customers as follows: a. The first group has 5 medium sized businesses: each needs 64 addresses. b. The second group has 25 small businesses; each needs 16 addresses. c. The third group has 70 customers; each needs 4 addresses. Design the sub-blocks and give the slash notation for each sub-block.Find out how many addresses are still available after each allocation.	6	CO2

Q3 (b)	Explain the connection establishment and connection release procedure for TCP.	6	CO2
Q4 (a)	What do you mean by congestion control? Explain any one congestion control mechanism in TCP.	6	CO2
Q4 (b)	Differentiate between flat addressing and Hierarchical addressing. Consider the network shown in the figure. Using link state algorithm find the shortest path tree and the forwarding table for node A for the topology shown in the figure below. 	6	CO2
Q5 (a)	Write a note on firewalls. OR With the help of an example, explain the public key cryptography technique.	6	CO3
Q5 (b)	Explain the working of OSPF with the help of different types of packet messages. State the advantages of OSPF over RIP.	6	CO3