Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058, India

(Autonomous College Affiliated to University of Mumbai)

End Semester Examination

Max. Marks: 100 **Duration: 3 Hr**

Class: T.E. **Semester: VI**

Course Code: ETC603 **Branch: Electronics and Telecommunication**

Name of the Course: Computer Communication Telecom Networks

Instruction:

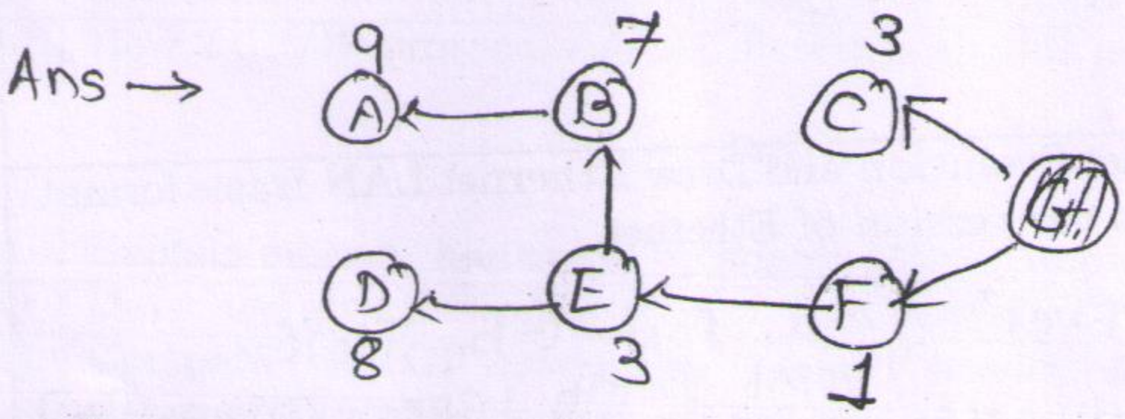
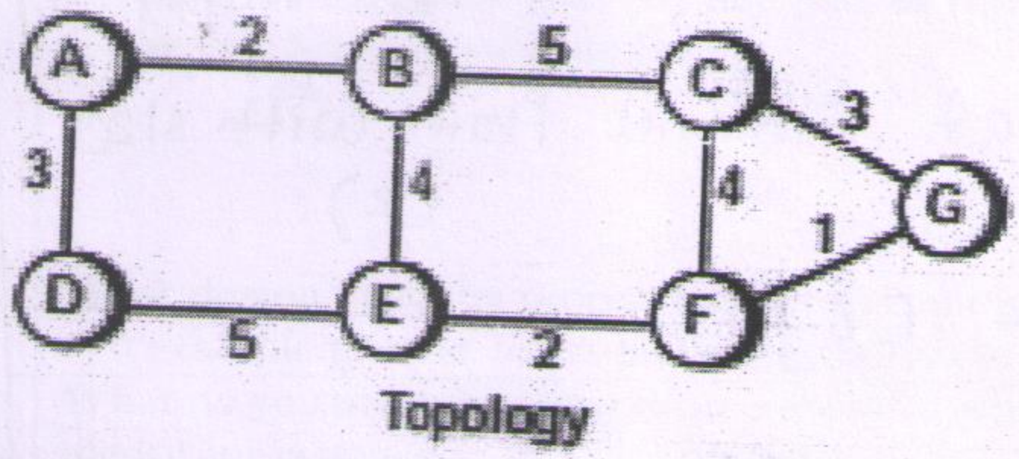
(1) **All questions Q1-Q5 are compulsory**

(2) **Assume suitable data if necessary**

(3) **Draw neat diagrams**

Q No.		Max. Marks	CO
Q.1 (a)	Summarize the role of layer in OSI model with suitable diagram? a) Diagram of OSI Model (1) b) Function of each layer (9) with diagram	10	CO1
Q.1 (b)	How TCP/IP protocol suit is different from OSI model. 1) Structural difference (4) 2) Functional difference (6)	10	CO1
	OR		
Q.1 (b)	Explain unicast, multicast, broadcast with example of IP address 1) Defn (3) 2) working principle (3) 3) diagram (3) 4) IP add (1)		
Q.2 (a)	Draw and give the importance of each field of TCP segment 1) Diagram (2 M) 2) Explaination (6) 3) Details of control flags (2)	10	CO4

Q.2 (b)	Compare the TCP header and the UDP header. List the fields in the each TCP header that are not part of the UDP header. Give the reason for each missing field. Missing in TCP i) Missing TL (size of TCP detⁿ by size of IP datagram (3) with reason Missing in UDP i) seq. NO ii) Ack NO iii) HL iv) control bit v) UP vi) option & padding with reason (7) **OR**	5	CO4
Q.2 (b)	What do you mean by process to process communication ? Give the two example process to process communication with socket address i) Dia. of p-p commu. (2). ii) example with ip & port add. of two process (3)		
Q.2 (c)	What do you mean by congestion control?In what way token bucket algorithm is superior to leaky bucket? i> working principle of CC (2) ii) Disadvantage of leaky bucket (2) iii) Highlight of merits & principle of Tocken bucket (3)	5	CO4
Q.3 (a)	Explain mail transfer process phase wise with suitable diagram . i> connection establishment (220, Hello, 250 ok] (2) ii> Message transfer (Envelop, Header body) [6] iii) connection termination (QUIT, 24 service closed) (2) **OR**	10	CO5
Q.3 (a)	Give the name of the connection oriented process to process communication. Explain basic working principle of FTP. 1> Example – FTP, Email (1) 2> FTP dia (2) shows control, Data connection (2) 3) Dia. of opening the control connection (2)		

Q.3 (b)	Which protocol is responsible to map Name vs IP address? Explain the different sections of Domain Name Space. 1) Domain Name space [1] 2) Generic 3) country } Domain [Explain with Diagram] [9] 4) Inverse		
Q.4(a)	Find the shortest path tree for node G using Dijkstra's algorithm. i) Initialization ii) Iteration 1 to 6 } [9] iii) Final answer (1) Ans →   Topology	10	CO5
Q.4 (b)	Draw the interior RIP message format and give the role of each field in message. what are the role of RIP timers in its operation. RIP Msg command (8) | version (8) | Reserved (16 bit) Family | Allos Nlw add. Allos Allos Distance with Explaination [5] ii) Timers. i) periodic 25-35s ii] Expiration 180s iii) Garbage collection 120s with Explanation [5]	10	CO3

Q.4 (b)	How path attribute in BGP helps router make a better decision ? Different between I -BGP and E-BGP. 1> Explain role of well known & optional attributes [5] 2> compare with Diagram of internal & external BGP w.r.t- AS1 & AS2 [5]		
Q.5 (a)	Classify the physical media for computer networks. Comment on optical fiber and DSL physical media. 1> ~~Eth~~ classification [2] 2) optical fiber [4] 3) DSL [4]		
Q.5 (b)	Classify Ethernet Evolution and Draw Ethernet LAN frame format which is used in our version of Ethernet. 1) Ethernet Evol^{n} (std. Fast G-b. TenG. 10Mb 100Mb 1GBPs 10GBPs [2] 2) Diagram of Ethernet fram with size [2] 3) Explain - [6]	10	CO2
	OR		
Q.5 (b)	What do you mean by collision ? Show the collision detection by CSMA/CD flow diagram. 1> Explain with diagram about collision [3] 2) CSMA/CD flow diagram [2] 3) Explain [5]	10	CO2