Sardar Patel Institute of Technology

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

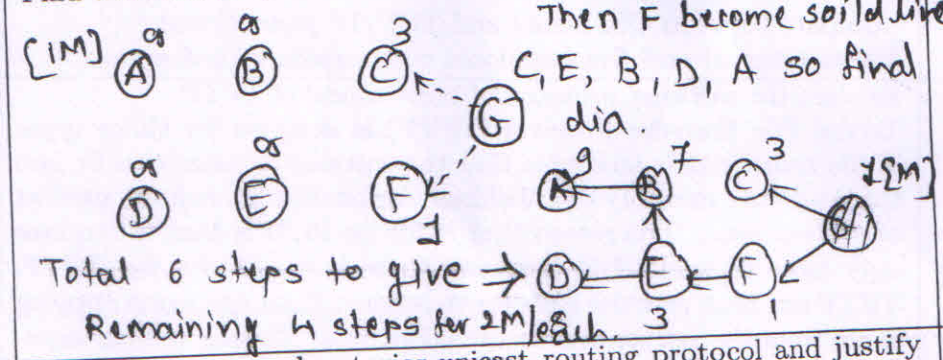
(Autonomous College Affiliated to University of Mumbai)

End Semester Examination 2018 Synoptic

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)	What is the role of Network layer in OSI model? Diagram of OSI network layer (1) ,four key functions of network layer(4).	5	CO1
Q.1 (b)	Draw TCP/IP protocol suit and explain in detail TCP/IP protocol suit diagram(2), function of each layer with specific protocol(8)	10	CO1
	OR		
Q.1 (b)	Compare between OSI model and TCP/IP protocol suit five structureal and five functional comparision with diagram.	10	CO1
Q.1 (c)	Explain the working principle of basic model of TFTP Trivial File Transfer Protocol (TFTP) is designed for these types of file transfer.It is so simple that the software package can fit into the read-only memory of a diskless workstation. It can be used at bootstrap time. The reason that it fits on ROM is that it requires only basic IP and UDP. However, there is no security for TFTP. TFTP can read or write a file for the client. Reading means copying a file from the server site to the client site. Writing means copying a file from the client site to the server site.(2)Types of TFTP messages(2), Connection establishment using TFTP(6)	5	CO1
Q.2 (a)	Draw a TCP segment and explain in brief each field of segment diagram of TCP segments with size of each field in bits(2) ,function of each field(8)	10	CO4
Q.2 (b)	Differentiate between TCP and UDP . five points of comparison w.r.t. working principle, speed, service, multiplexing, network management, header checksum etc	5	CO4
	OR		
Q.2 (b)	Following is a dump of UDP header in hexadecimal format CB84000D001C001C i)What is source port number? ii)What is destination port number? iii)What is total length of user data gram? iv)What is length of data? v)What is the client process?	5	CO4

Q.2 (c)	What do you mean by bursty traffic ? how it is handled by token bucket algorithm definition of bursty traffic(1), diagram and explanation token bucket algorithm.		
Q.3 (a)	Explain the phases of mail transfer with suitable diagram . diagram and explain data and control connection(4) Communication over these two (4) file types(2)	10	CO5
	OR		
Q.3 (a)	Draw and explain state transition diagram of DHCP. working principle of DHCP(1) , Diagram that shows dynamical allocation of IP address(2) with explanation of each steps(7)	10	CO5
Q.3 (b)	What is socket address? Write steps for socket programming define socket address with example(1), steps of socket programming(4)	5	CO5
Q.3 (c) CO5	What is the role of resolver in name address resolution. Resolver DNS is designed as a client-server application. A host that needs to map an address to a name or a name to an address calls a DNS client called a resolver. The resolver accesses the closest DNS server with a mapping request. If the server has the information, it satisfies the resolver; otherwise, it either refers the resolver to other servers or asks other servers to provide the information. After the resolver receives the mapping, it interprets the response to see if it is a real resolution or an error, and finally delivers the result to the process that requested it.(1)Mapping name to address(2) Mapping of Address to name(2)		5
Q.4(a)	Find the shortest path tree for node G using Dijkstra's algorithm. 	10	CO3
Q.4 (b)	Classify interior and exterior unicast routing protocol and justify BGP is exterior protocol classification of protocol(2), with the help of diagram and routing between AS shown BGP is exterior protocol.	10	CO3
	OR		
Q.4 (b)	What are the disadvantages of distance vector routing ?How it is overcome by Link state routing? disadvantages of DVA(4), Link state algorithm- poison reverse , split horizon techniques.	10	CO3
Q.5 (a)	Classify the physical media for computer networks. write a note on WiMax	10	CO2

	classification of physical media(2), Diagram and explanation of WiMax(8)		
Q.5 (b)	Compare between TDM and FDM five functional comparison with diagram. **OR**	5	CO2
Q.5 (b)	Draw and explain the field of Ethernet frame. Packet format with bit size(2), function of each field(3)	5	CO2
Q.5 (c)	Justify Slotted ALOHA efficiency is more than Pure ALOHA Slotted ALOHA Diagram and explanation and efficiency graph.	5	CO2

Q.4 (b)	Classify interior and exterior unicast routing protocol and justify BGP is exterior protocol	10	CO3
	OR		
Q.4 (b)	What are the disadvantages of distance vector routing ?How it is overcome by Link state routing?	10	CO3
Q.5 (a)	Classify the physical media for computer networks. write a note on WiMax	10	CO2
Q.5 (b)	Compare between TDM and FDM	5	CO2
	OR		
Q.5 (b)	Draw and explain the field of Ethernet frame.	5	CO2
Q.5 (c)	Justify Slotted ALOHA efficiency is more than Pure ALOHA	5	CO2

Q 2 b) i) source port No = Hexa ($CB84_{16}$) means 52100

ii) Destn " = Hexa ($000D_{16}$) means 13

iii) Total L = ($001C_{16}$) UDP packet as 28 bytes

iv) L of Data = whole packet minus the length of header or = 28 - 8 = 20 bytes

v) client process is Dynamic (port No -13 - Daytime, Returns the data & the time