



Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058, India
(Autonomous College Affiliated to University of Mumbai)

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Mid Semester Examination	
Synoptic-14/03/18	
Max. Marks: 30	Duration: 90 Min
Class: T.E.	Semester: VI
Course Code: ETC603	Branch: Electronics
Telecommunication	
Name of the Course: Computer Communication Telecom Network	

Q No.		Max. Marks	CO
Q.1 (a)	Explain the role of Network layer in OSI model Logical address Routing Source to destination delivery	2	CO1
Q.1 (b)	Compare between slotted ALOHA and pure ALOHA Frame Transmission Time Successful Transmission Synchronization Throughput	0.5*4= 2	CO2
Q.1 (c)	BGP is known as Exterior routing protocol , justify The Border Gateway Protocol (BGP) is one of a family of IP Routing protocols, and is an Exterior Gateway Protocol (EGP) designed to distribute routing information between ASs. An individual AS that wants to exchange routing information with other ASs will typically contain one or more BGP routers. Each BGP router is configured with the addresses of the BGP peers with which it is to exchange routing information.	2	CO3
Q.2 (a)	A packet has arrived with in which the offset value is 100 . The value of HLEN is 5 and value of total length field is 100. What is the number of first byte and last byte? first byte=Offset*8=800 HLEN=5*4 20= Base header T.L.+ D.L.+H.L so D.L. 100-20=80 last byte = first byte+D.L.=800+79=879	2 1 2 1	CO3
Q.2 (b)	Explain strategy which is suitable when two computers using IPv6 want to communicate with each other and packet must pass through IPv4 region. diagram of Tunnelling Tunneling Mechanism-To minimize any dependencies during the transition, all the routers in the path between two IPv6 nodes do not need to support IPv6. This mechanism is called tunneling. Basically, IPv6 packets are placed inside IPv4 packets, which are routed through the IPv4 routers. Operationally, the tunnel consists of two routers that are configured to have a virtual point-to-point link between the two routers over the IPv4 network. figure for tunneling mechanism through IPv4 routers	2 4	CO3

	<p style="text-align: center;">OR</p> <p>An IP datagram has arrived with following information in the header(in hexadecimal) 45 00 00 54 00 03 00 00 20 06 00 00 7C 4E 03 02 B4 0E 0F 02 a. Are there any options? b. Is the packet fragmented? c. What is the size of data? d. Is a checksum used? e. How many more router can the packet travel to? f. What is type of service?</p> <p>no option not fragmented 64 byte data check sum not used packet may visit upto 32 more routers Type of service normal</p>	6=1*1	CO3
Q.3 (a)	<p>Describe the steps of distance vector routing with example</p> <p>Example Initialize share update compare final routing table</p>	6=1*1	CO2
Q.3 (b)	<p>Classify Multiple access protocol and explain the working principle of CSMA/CA</p> <p>Random Access-ALOHA, CSMA,CSMA/CD, CSMA/CA, Controlled Access, Channelization</p> <p>IFG time contention window ACK received Backoff limit flow graph</p> <p style="text-align: center;">OR</p> <p>List the role of data link layer.Draw Sublayer of data link layer and explain the function of sublayer</p> <p>Framing Physical Address Flow control error control access control</p> <p>Diagram of sublayer ,MAC provides flow control and multiplexing for the transmission medium.</p> <p>LLC provides flow control and multiplexing for the logical link</p>	<p>2</p> <p>4</p> <p>3</p> <p>3</p>	<p>CO2</p> <p>CO2</p>