Sardar Patel Institute of Technology

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

Mid Semester Examination

September 2019

Max. Marks: 20 | **Duration: 60 Minutes**
Class: TE | **Semester: V**
Course CodeIT 52 | **Branch: IT**
Name of the Course: Computer Networks

Instructions:

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

Question No.		Max. Marks	CO	BL
Q 1 (a)	State true or false and justify your answer for the following statement Bridge isolate the two broadcast domain.	1	1	2
Q.1(b)	State and explain in short the function of any 2 layer in OSI model?	2	1	2
Q.1 (c)	What is satellite's footprint?	1	1	2
Q.1(d)	Neatly draw the waveforms resulting from NRZ,NRZI, Manchester signaling for transmitting the bit stream 011101.	3	1	2
Q2 (a)	Transmit the message 1011001001001011 and Consider the Cyclic Redundancy Check (CRC) generator polynomial $x^8 + x^2 + x^1 + 1$ Determine the message that should be transmitted . **OR** A seven bit Hamming code received 1110101. Whether the received code word is correct or not? If not correct then correct it.	3	2	3
Q2 (b)	Two neighboring nodes A and B uses sliding window protocol with 3 bit sequence number . As the ARQ mechanism Go-back-N is used with window size of 4. Assume A is transmitting and B is receiving show window position for the following events: 1.Before A send any frame. 2.After A send frame 0,1,2 and receive ACK from B for 0 and 1.	2	2	3

Q2 (c)	1. State the function of data link layer. 2. State following statement is true or false - Consider M1 is the source MAC address and M2 is the destination MAC address in a data packet (MAC frame) which is flowing in a Ethernet LAN. Then M1 and M2 should have direct physical connection between them via a ethernet cable.(ie- there would not be any intermediate network device between M1 and M2). **OR** 1. What is the need of error detection and correction at intermediate devices? 2. Select the correct option for the following statement Two devices are in network if a) a process in one device is able to exchange information with a process in another device b) a process is running on both devices c) PIDs of the processes running of different devices are same d) none of the mentioned	1 1	2	3
Q3 (a)	Consider a token ring with latency 500 μsec and packet size of 1500 bytes. What is the effective throughput rate for single active host that can be achieved if the ring has 4 Mbps bandwidth? Assume the strategy used is delayed token reinsertion.	4	2	3
Q3(b)	Differentiate between pure Aloha and slotted aloha for 3 different parameters.	2	2	3