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Department of Electronics & Communication Engg.

Continuous Internal Evaluation – I

Course Name : Computer Communication Networks	Date :	15/06/2021
Course Code : 18EC6DCCCN	Day :	Tuesday
Semester : VI	Timings :	3:00PM-4:30PM
Max Marks : 50 M	Duration :	1½ Hrs.

No.		Question Description	Mks	CO & Levels
Q1	(a)	In _____ flags are required. (i) Fixed frame size (ii) Variable frame size (iii) Depends on need for error control (iv) both (i) and (ii)	1	
	(b)	The functions of application layer are, (i) Remote login (ii) File transfer and access (iii) Mail service (iv) All of the above	1	
	(c)	Source address in a LAN sending the same frame to two or more number of nodes is called, (i) Unicast address (ii) Multicast address (iii)Broadcast address (iv) None	1	
	(d)	Which of the following is false? (i) Sn ≥Sf (ii) Sn ≤ Sf (iii)Sf = Rn (iv) None	1	
	(e)	What layer in the TCP/IP stack is equivalent to the Transport layer of the OSI model? (i) Application (ii) Host-to-Host (iii) Internet (iv) Network Access	1	
	(f)	In Go-Back-N ARQ and Selective repeat ARQ what is the size of the window. (i) 2^m-1 and 2^{m-1} (ii) 2^{m-1} and 2^m-1 (iii) 2^{m-1} and 2^m (iv) 2^m and 2^m	1	
	(g)	In Selective Repeat ARQ, if 5 is the number of bits for the sequence number, then the maximum size of the receive window must be _____. (i)1 (ii)15 (iii)16 (iv)25	1	
	(h)	Flow control is a mechanism to regulate the flow of information. This is the function of which layer? (i) All layers (ii) Network (iii) Physical (iv)Transport	1	
	(i)	In a noiseless channel which is not required, (i) None of these (ii) Congestion control (iii) Error control (iv) Flow control	1	

	(j)	The field which refers to error detection in HDLC is_____ (i) FCE (ii) CRD (iii) FCS (iv) Flag	1	
Q2	(a)	Use the synchronous TDM and combine 20 digital sources each of 100kbps each, the output slot carries 2bit from each digital source. Determine the following, (i) What is the size of the output frame in bits? (ii) What is the size of output frame rate? (iii) What is the duration of the output frame? (iv) What is the output data rate? And also determine above, if 1 extra bit is added in each frame for synchronization.	10M	CO1/L5
Q3	(a)	Distinguish between IEEE 802.3, 802.4, 802.5 in detail.	6M	C02/L4
	(b)	Interpret the maximum and minimum bytes carried by IEEE 802.3 ethernet frame?	4M	C02/L2
Q4	(a)	Outline the four functions of each of the layers in the OSI model along with the diagrams in detail.	10M	CO2/L2
		OR		
Q5	(a)	Distinguish between circuit and packet switching.	5M	CO2/L4
	(b)	Infer why, (i) In circuit switching, addresses are required during setup phase. (ii) In datagram switching, addresses are always required? (iii) In virtual channel switching, for call establishment, call disconnection and data transmission requires addresses.	5M	CO2/L2
Q6	(a)	Construct the flow diagram for Go-Back N ARQ for noisy channels and also compose the receiver site algorithm.	6M	CO2/L3
	(b)	Compose the flow diagram for the following sequence of events which is stated below. Frames 0, 1, 2, 3 and 4 are sent. However, frame 2 is lost and later acknowledgment of 4 is lost. Use the protocol which has the window same as that of the sender.	4M	CO2/L6
		OR		
Q7	(a)	Distinguish between I frame, S frame and U frame in HDLC protocol in detail. Determine, how many frames are required for call establishment and call disconnection. Write the bits for each of the frames.	10	CO1/L4 /L5