

Course Code : 20ECSC303		Semester :VI
Date of Exam :16.06.21		Duration :75 mins
Note: Answer any two full questions. Assumptions need to be justified suitably.		
Q.No.	Questions	Marks
1a	Suppose that there are 3 active nodes, each of which has an infinite supply of frames they want to transmit, and these frames have a constant size of L bits. If two or more frames collide, then all nodes will detect the collision. Assume the (a) Slotted Aloha is chosen for data transmission. (b) Aloha is chosen for data transmission Given a probability of transmission $p = 0.43$, what is the maximum efficiency in these two cases?	6
1b	With neat diagram explain where and why ARP protocol is used in our campus network.	6
1c	i. Explain Hamming code error correction technique. ii. Suppose the information content of a packet is the bit pattern of your roll number. Find the Hamming code that is transmitted. iii. Assuming the 2 nd bit from binary data is flipped, show the process for error correction using hamming code correction technique.	8
2a	Explain with diagram CSMA/CD and CSMA/CA in detail.	6

	Find the Hamming code that is transmitted.	
	iii. Assuming the 2 nd bit from binary data is flipped, show the process for error correction using hamming code correction technique.	
2a	Explain with diagram CSMA/CD and CSMA/CA in detail.	6
2b	Justify your answer "Establishment of VLAN's in organization will help administrators to manage network efficiently "	6
2c	Switch has 8 ports and it is connected with 6 machines namely A, B, C, D, E, F A is connected to port 1, B is connected to port 3, C is connected to port 4 D is connected to port 5 E is connected to port 2 F is connected to port 7	8

	<p>If following are data exchanged list</p> <p>a)A→E (data sent from machine A to E)</p> <p>b)D→E</p> <p>c)F→E</p> <p>d)C→B</p> <p>e)B→E</p> <p>With neat diagram show in above case how switch is better than hub. Justify your answer</p>	
3a	Write a note on data center, differentiate between University data center and MNC data center	6
3b	How does MPLS plays major role in networking explain with case study? If we implement MPLS inside our KLE Technological University is it efficient?	6