

Reg. No.:

Name :



VIT

Vellore Institute of Technology
(Deemed to be University under section 3 of UOE Act 1956)

Continuous Assessment Test II – October 2023

Programme	: B.Tech. (CSE)	Semester	: Fall'23-24
Course	: Computer Networks	Code	: BCSE308L
		Slot	: C2+TC2
Faculty	: Dr. Deepa Nivetika, Dr. Neelanarayanan V, Dr. Kanchana Devi V	Class Nbr	: CH2023240100901 CH2023240100902 CH2023240101181
Time	: 90 Minutes	Max. Marks	: 50

Answer ALL the questions

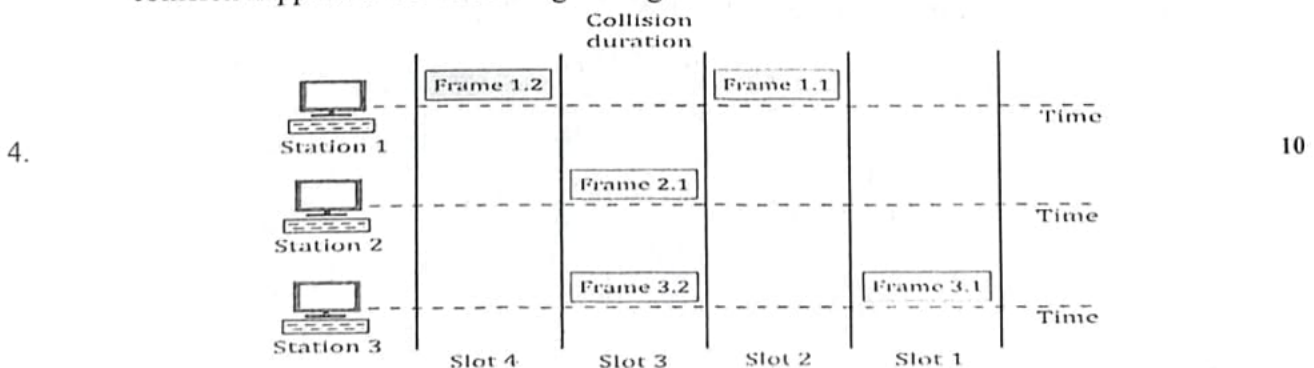
Q.No.	Sub. Sec.	Questions	Marks
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| 1. | | Imagine Station A has sent a 7 bit data word 1100011 using single bit error detection and correction technique and Station B has received a Codeword _____. Use even parity to show the codeword received from Station A. Also, prove that there is no error in the received code word. | 10 |
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| 2. | | Consider 210.16.215.0/25 is one of the address allotted to an organisation. The organisation has four departments A, B, C and D. Total number of addresses allotted to department A is 32, B is 32, C is 32 and D is 32.
i. Specify the subnet mask. [1 Mark]
ii. Specify the subnet address for each department. [3 Marks]
iii. Specify the host address range for each department. [3 Marks]
iv. Specify the broadcast address for each department. [3 Marks] | 10 |
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| 3. | | Frames are generated at node A and sent to node C through node B. Between A and B sliding window protocol is used with a window size of 3. Between B and C stop and wait is used. Show the method of transmission that takes place between the nodes in diagrammatic representation. List out the merits and demerits of two protocols. | 10 |
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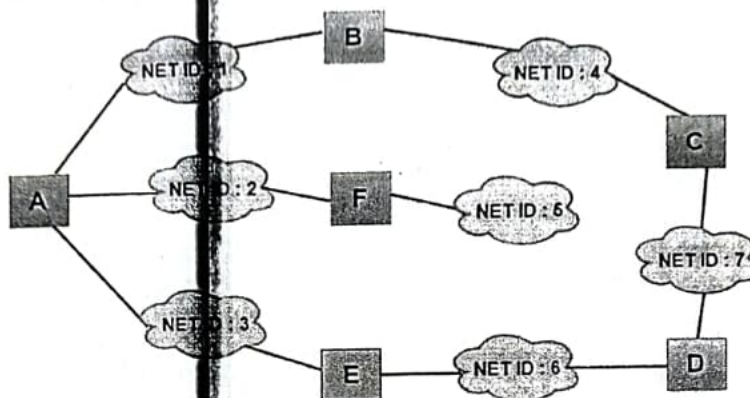
Consider the given figure. Three stations want to transmit their information using common transmission medium without any collision. But, during data transmission collision happens as shown in the given figure.



- i. Identify the type of the protocol used in the above figure. Also, state the reason for

- the collision. [4 Marks]
- ii. Suggest an alternative protocol which can reduce the rate of collision with a help of detection mechanism. Elucidate the same in detail with a diagram. [6 Marks]

Consider the given Autonomous System (AS) with A to F routers. Each router in the AS send their records to their neighbor routers. Each router will update their routing tables upon receiving the records. Identify and explain the routing and show the final routing table of all the routers A, B, C, D, E and F.



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