

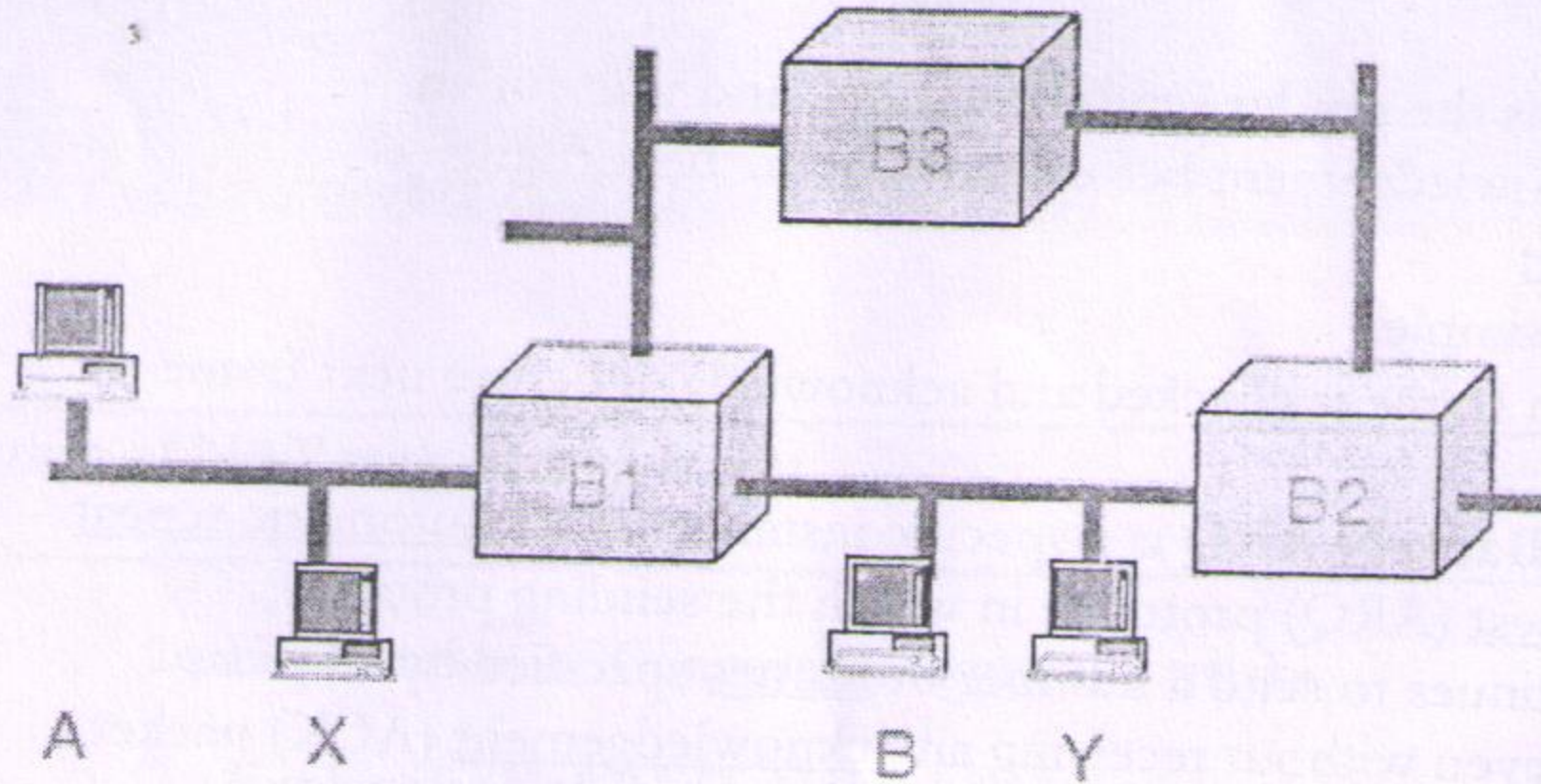
Make-up Semester Examination Synoptic
 March 2019

Max. Marks: 60
 Class: F.Y.MCA
 Course Code: MCA22
 Name of the Course: Computer Networks

Duration: 3Hrs
 Semester:II
 Branch: MCA

Instruction:

- (1) All questions are compulsory
- (2) Draw neat diagrams
- (3) Assume suitable data if necessary

Q No.		Max. Marks	CO
Q.1 (a)	Ratio = $B \log (1+S/N)$,Ans $S/N = 64.22$	6	1
	 <p>*diagram</p> <ul style="list-style-type: none"> ▪ A source routing bridge is found with token ring networks. ▪ Source routing bridges do not follow the tables. ▪ When a workstation wants to send a frame , it must know the routing information field (RIF) and exact path of network. ▪ If the node does not know the exact path , it sends out a discovery frame. ▪ The discovery frame makes its way to the final destination , then as it returns , it records the path. 		
Q.1 (b)	*diagram	6	
Q.2 (a)	<p>There are 3 common switching techniques:</p> <ol style="list-style-type: none"> 1. Circuit Switching 2. Packet Switching 3. Message Switching <p>Explain any one in brief</p>	6	1

	<p>Infrared Communication.</p> <p>Broadcast Radio.</p> <p>Radio.</p> <p>Microwave Communication.</p> <p>Explain any one in brief</p>		
Q.2 (b)	Disadvantages of Bus topology , Ring topology and mesh topology	6	2
Q.3(a)	<ul style="list-style-type: none"> At the sending site, to hold the outstanding frames until they are acknowledged, we use the concept of a window. The size of the window is at most $2^m - 1$ where m is the number of bits for the sequence number. Size of the window can be variable, e.g. TCP. The window slides to include new unsent frames when the correct ACKs are received Size of the window at the receiving site is always 1 in this protocol. Receiver is always looking for a specific frame to arrive in a specific order. Any frame arriving out of order is discarded and needs to be resent. Receiver window slides as shown in fig. Receiver is waiting for frame 0 in part a. <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> In this the sender sends one frame and wait for an acknowledgement before sending the next frame. <p><u>Advantage:</u></p> <ul style="list-style-type: none"> ✓ It is simple. ✓ Each frame is checked and acknowledged before next frame is sent. ✓ Go-Back-N ARQ is a specific instance of the <u>automatic repeat request</u> (ARQ) protocol, in which the sending process continues to send a number of <u>frames</u> specified by a <i>window size</i> even without receiving an <u>acknowledgement</u> (ACK) packet from the receiver. It is a special case of the general <u>sliding window protocol</u> with the transmit window size of N and receive window size of 1. It can transmit N frames to the peer before requiring an ACK. 	6	3
Q.3(b)	<p>Perform steps for hamming code</p> <p>Correct codeword 1010101</p>	6	3
	<p>Vertical redundancy check (VRC) is an error-checking method used on an eight-bit ASCII character. In VRC, a parity bit is attached to each byte of data, which is then tested to determine whether the transmission is correct. VRC is considered an unreliable error-detection method because it only works if an even number of bits is distorted.</p> <p>A vertical redundancy check is also called a transverse redundancy check when used in combination with other error-controlling codes such as a longitudinal redundancy check.</p> <p>LRC verifies the accuracy of stored and transmitted data using parity bits. It is a redundancy check applied to a parallel group of bit streams. The data to be transmitted is divided into transmission blocks into</p>		

Add 0 parity if all's 1 are even

		6	4
	<p>1. An application developer may not want its application to use TCP's congestion control, which can throttle the application's sending rate at times of congestion. Often, designers of IP telephony and IP video conference applications choose to run their applications over UDP because they want to avoid TCP's congestion control. Also, some applications do not need the reliable data transfer provided by TCP. If these applications require reliable data transfer, then the application layer protocol will have to provide for reliability. (3marks)</p> <p>2. (a) 20 bytes (1.5 marks) (b) The acknowledgement number will be 90.(1.5 marks)</p> <p>OR</p> <p>Host A sends a TCP SYNchronize packet to Host B Host B receives A's SYN Host B sends a SYNchronize-ACKnowledgement Host A receives B's SYN-ACK Host A sends ACKnowledge Host B receives ACK. <i>TCP socket connection is ESTABLISHED.</i></p>		
Q.5(a)	Explanation of NAT with detail 6 marks	6	3
5(b)	<p>1. Explanation of Congestion Control 2 marks</p> <p>2. Explanation of RED Algorithm 4marks</p> <p>1. Explanation of DNS 2 marks</p> <p>2. Explanation type of message 2 marks</p> <p>3. Explanation type of domain space 2 marks</p>		