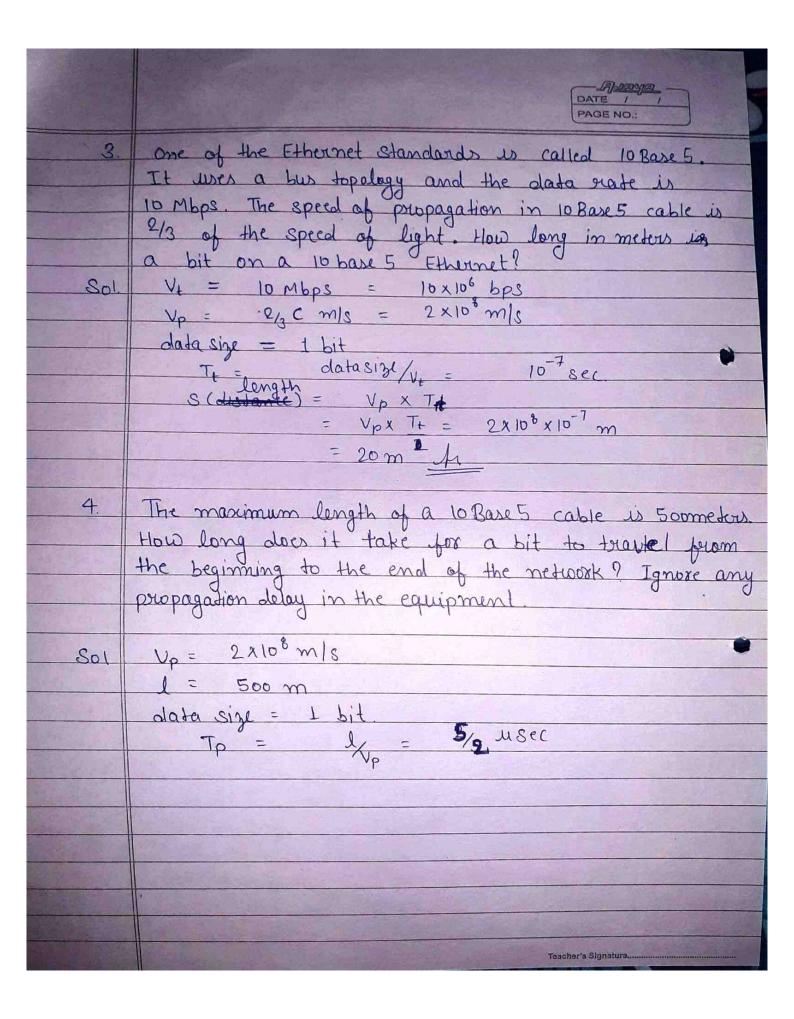
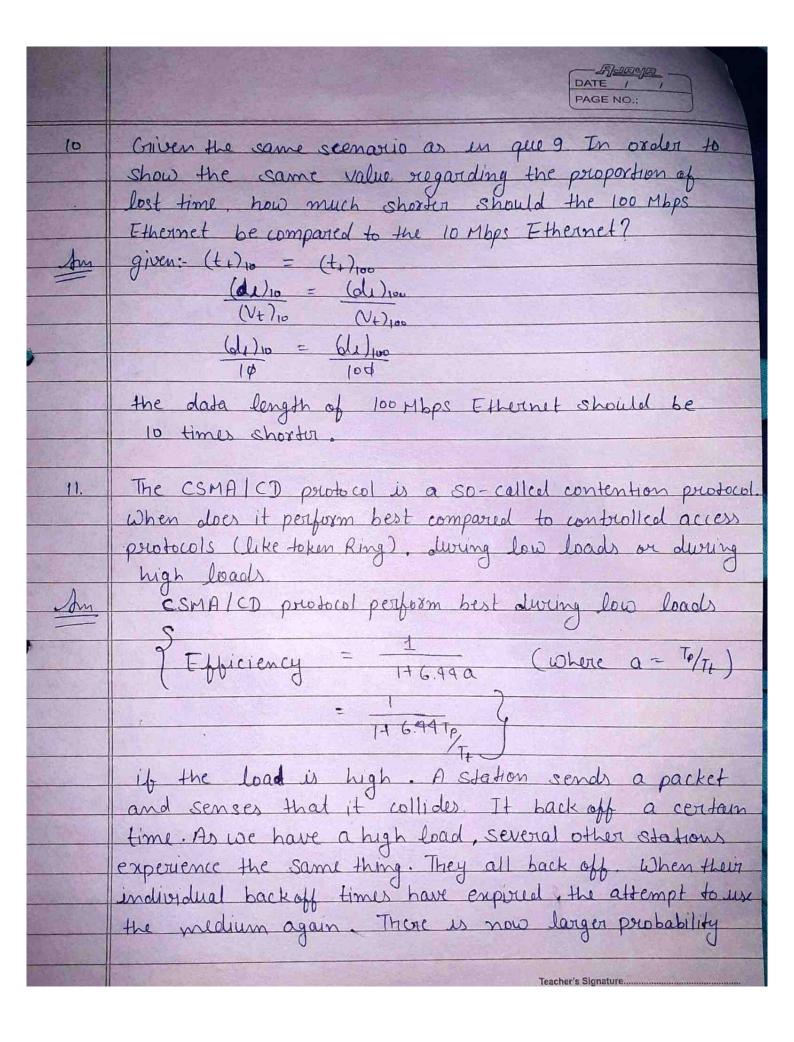
	DATE ! ! PAGE NO.:
1	Who
	Name- Tapish Katiyar
	Branch - CSE
	Batch - F.4
	Roll No - 20/403
	Exercise No 1
1.	what is the smallest size of an Ethernet frame? what is the largest size of an Ethernet frame?  minimum Ethernet frame size = 64 bytes (18 byte header + 46 byte playload)
	maximum Ethernet frame size = 1518 bytes (18 byte header + 1500 byte playload)
2.	What is the ratio of useful data to the entire frame for the smallest Ethernet frame? What is the ratio for the largest frame?
Ans	= useful data for smallest Ethernet forme = 46 bytes smallest size of Ethernet frame = 64 bytes ratio = 46/64 = .72
	=) useful data for largest Ethernet frame = 1500 bytes largest size of Ethernel frame = 1518 bytes ratio = 1500/1578 = 0.99



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5.	Using the data in que 4, find the maximum time it takes
Sol	for a sender to detect a collision. The worst case occurs when data are sent from one end of the cable and the collision happens at the other end.  Remember that the signal needs to make a houndarip  Vp= 2×108 m/s  1 = 500 m  Tp = 5 usec
	in worst case the collision will be detect
	en 2 lp sec
	= 5 usec
6.	Why do you think that an Ethernet frame should have
,	a minimum data Alzi
=	Because the sending station must be able to sense
	a potential collision before the entire frame is sent. Otherwise, in the case of collision, the frame will be
	alisearded in the false belief that the brame has been
	successfully received by the distination.
7.	Using the dada in que 3 and 4, find the minimum sine
	of an Ethernet frame for collision detection to work
	properly.
Sol	0 = 500  m
	Tp = 5/2 Usec, Tt > 2 Tp => Tt = 5Usec
	minimum size of thernet frame = V+ x (Tt)min
	= 50 bit = 6.25 bytes
	Teacher's Signature

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8.	How long time does it take to create the smallest frame in a 10 Base 5 Ethernet
Sol.	smallest frame sige = 69 bytes  Vt = 10 Mbps = 107 bps
0	$T_t = \frac{64.8}{10^7} = \frac{512 \times 10^{-7} \text{ sec}}{10^7}$
9.	A lombps Ethernet is sometimes said to perform well if the average officed load is no larger than 30% of the network capacity. If the load is larger, the collisions will be so frequent that too much time is spent on collisions, which in turn will result in large queuling delays in the connected computers. Now take a loo Mbps Ethernet with the same length of the bus as in the lombps Ethernet examples and with the same affected load i.e. 30% would the proposition of lost time compared to efficient time, be larger or smaller than in the case for the lombps network.
Sol	given: - length of data 1 same  (V <sub>t</sub> ) <sub>to</sub> = 10 Mbps = 10 bps  (V <sub>t</sub> ) <sub>to</sub> = 10 Mbps = 10 bps  (t <sub>t</sub> ) <sub>to</sub> = de  (t <sub>t</sub> ) <sub>to</sub> = to  In the case for 10 Mbps Network proportion of lost time  compared to efficient time, be 10 times larger from
	100 Mb ps Teacher's Signature



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	of new collision. So practically none gets to send.
12.	Below is an Ethernet-II frame, see lecture moderated In the preamble, start frame Delimiter and crc fields have been removed in the frame below. Two degit represent one byte but eg 2E is one byte. The four left - hand side digits (including the colon) and the dashes are not parts of the frame.
	08 00 20 7c 94 1c 00 00 - 39 51 90 37 08 00  45 00 00 3e 36 00 00 00 80 11 - da 4f 82 eb  12 7f 82 eb 12 0a 04 01 00 35 00 2a - ee 6a  00 01 01 00 00 01 00 00 00 00 00 00 06 67  -65 6d 69 6e 69 03 03 6c 64 63 02 6c 75 02  73 65 00 -00 01 00 01
Sol.	formate of Ethernet II frame  DA SA PDUtyre/size DSAP SSAP Ctrl DATA FCS  6 byte 6 byte 2 byte 1 byte 1 byte 1 byte >46 byte 4 byte
A) B) C)	Source add = 00 00 39 51 96 37
	Tanchavia Standa