Model Question Paper for Minor Examination (ISA-1)		
Course Code:	22ECAC302	Course Title: Computer Network
Duration	75 Mins	
Max. Marks	40	
Note: Answer any two full questions		

Q.No.	Questions	Marks	CO	BL	PO	PI code
1a	Explain the applications of application layer and data link layer				1	1.4.5
1b	"Two or more DHCP servers in a same LAN will lead to a network breakdown ". Justify your answer				1	1.4.5
1c	The following is a dump of a UDP header in hexadecimal format. **0045DF000058FE20** a. What is the source port number? b. What is the destination port number? c. What is the total length of the user datagram? d. What is the length of the data? e. Is the packet directed from a client to a server or vice versa? f. What is the client process?				2	2.2.3
2a	Explain with timing diagram the three-way handshake mechanism in TCP for connection setup and termination.				1	1.4.5
2b	How does SMTP mark the end of a message body? How about HTTP? Can HTTP use the same method as SMTP to mark the end of a message body? Explain.				1	1.4.5
2c	Host A wants to send a large file to Host B. The path from Host B has three links, of rates R1 = 500 Kbps, R2 = 2Mbps and R3=1Mbps a. Assuming no other traffic in the network, what is the throughput for the file transfer. b. Suppose the file is 4 million bytes. Dividing the file size by throughput, roughly how long will it take to transfer the file to Host B? Repeat (a) and (b), but now with R2 reduced to 100kbps.				2	2.2.3
3a	Differentiate between POP3 and IMAP				1	1.4.5
3b	Compare the TCP header and the UDP header. List the fields in the TCP header that are not part of the UDP header. Give the reason for each missing field.				2	1.4.5

3c	Users share a 2Mbps link. Each user transmits continuously at 1Mbps when transmitting, but each user transmits only 20 percent of the time. a. When circuit switching is used, how many users can be supported? b. For the remainder of this problem, suppose packet switching is used. Why will there be essentially no queuing delay before the link if two or fewer users transmit at the same time? Why will there be a queuing delay if three users transmit at the same time? c. Find the probability that a given user is transmitting. Suppose now there are three users. Find the probability that at any given time, all three users are transmitting simultaneously. Find the fraction of time during which the queue grows.				2	2.2.3