Roll No.									

The Assam Royal Global University
Royal School of Engineering & Technology (RSET)
B.TECH. CSE 6th Semester
Special Supplementary Examination, August 2024
Course: Data Communication and Networks
Code: CSE022C601

Time: 3 hours   Maximum Marks: 70

Attempt all questions as per instructions given
The figures in the right-hand margin indicate marks

Section-A

Q. No.	Answer the following in brief (within 50 words)	Marks	CO	BT Level
1(a)	Compare the three transmission modes based on direction of exchange of information.	2	CO 2	BT 2
1(b)	Define burst error with an example.	2	CO 1	BT 1
1(c)	Construct one classfull and one classless IP address.	2	CO 3	BT 3
1(d)	List the use of mask in IP addressing.	2	CO 2	BT 2
1(e)	Compare the difference between IP protocol and transport layer protocol.	2	CO 1	BT 1
1(f)	What are the different flags used in TCP segment format?	2	CO 1	BT 1
1(g)	Distinguish between http and https.	2	CO 4	BT 4
1(h)	Show the use of the service 'addressing' in the application layer.	2	CO 2	BT 2

Section-B

Q. No.	Answer any two of the following (Within 300 words each)	Marks	CO	BT Level
2 (a)	A bit stream 10011101 is transmitted using the CRC method and the divisor is x^3+1. A) Examine the actual bit stream transmitted. B) Apply CRC to detect the error if the third bit from the left is inverted during transmission.	3+3	CO 4 CO 3	BT 4 BT 3
2 (b)	Apply Go-Back-N protocol on the data bits 9 8 7 6 5 4 3 2 1 0 where N= 4 and considering the acknowledgement of bit 4 is lost during transmission.	6	CO 3	BT 3
2 (c)	Apply hamming code for the data bits 1001101 if there is an error present in the 5th bit of the data unit to be sent.	6	CO 3	BT 3

Q. No.	Answer any two of the following (Within 300 words each)	Marks	CO	BT Level
3 (a)	Show the use of an Internet Protocol. Compare all the fields present in an IP packet.	2+5	CO 1 CO 2	BT 1 BT 2
3 (b)	Classify the five different networks of Classfull addressing.	7	CO 4	BT 4
3 (c)	Classify the execution of distance vector routing with a detailed example showing the final updated table.	7	CO 4	BT 4

Q. No.	Answer any two of the following (Within 300 words each)	Marks	CO	BT Level
4 (a)	List the uses of User Datagram Protocol? Show the connection establishment and termination methodology of TCP.	3+4	CO 1 CO 2	BT 1 BT 2
4 (b)	Compare all the fields present in a TCP segment format. Classify the differences between TCP and UDP.	3+4	CO 1 CO 2	BT 1 BT 2
4 (c)	Identify the seven different features of SCTP with descriptions.	7	CO 3	BT 3

Q. No.	Answer any two of the following (Within 300 words each)	Marks	CO	BT Level
5 (a)	What is HTTP protocol? List out the features of HTTP protocol. Also explain HTTP transactions	5+2	CO 1 CO 2	BT 1 BT 2
5 (b)	Show the detailed working principle of DHCP protocol.	7	CO 2	BT 2
5 (c)	Explain the different functions and the services of the application layer.	7	CO 2	BT 2

Course Outcomes	Marks Allotted	Percentage
CO1	19	Approx 60%
CO2	35	
CO3	24	Approx 20%
CO4	19	Approx 20%