Academic Year (2021-22)
Year: S.Y.   Semester: IV

Program: B. Tech. (Computer Engg.)   Max. Marks: 75
Subject: Computer Networks   Time: 10: 30 am to 1:30 pm
Date: 08-07-2022   Duration: 3 Hours

REGULAR EXAMINATION

ANSWER KEY

Question No.		Max. Marks
Q1 (a)	Draw, Explain and discuss Bus topology with its pros and cons. Diag-1M Explanation-2M Pros-1M Cons-1M **OR** What are the functions of Presentation Layer? Explain its step by step procedure with example. 5 functions each for 1M	[05] [05]
Q1 (b)	Compare LAN, WAN and MAN. 5 points in total for all 3 columns, each point for 1M. Compare ISO-OSI and TCP/IP reference model. 5 points in total for all 2 columns, each point for 1M.	[05] [05]

Q2 (a)	Explain Framing Techniques.
	 General idea of framing -1M
	 Each technique for 3M
	 OR
	 For an error detecting CRC, Consider G(x)=10101.
	    1. Compute the transmitted bit sequence for the data bit sequence 1101101.
	    2. The string of bits 110011001100 is received. Is acceptable and if so what is the data bit sequence.
	 Computation 5M and Verification 5M
		[10]
		
		 [10]

Q2 (b)	Write a short note on Ethernet and its types. Introduction 1M, 4M for its types and applications	[05]
Q3 (a)	Discuss different types of Error messages in ICMP Protocol. Each error message for 1M	[05]
Q3 (b)	Explain Link State Routing in detail. Each step for 2M. **OR** ISP has given the IP address 201.70.64.0. Form six Subnets out of it. Write Address range and Subnet Mask for each of the subnet. 2 M for selecting and showing bits and its combinations 8 M for final table	[10] [10]
Q4 (a)	Write and explain duties of Physical layer. Each duty for 1M	[05]

Q4 (b)	Compare types of Wired Media.	[05]
	Every point on comparison 1M each	
Q4 (c)	Write Short note on Wireless Media.	[05]
	What is wireless media-1M	
	Any 2 types in detail each carry 2M	
Q5 (a)	Draw TCP-State Transition Diagram.	[05]
	Correct dgm-5M	
	Write a program to implement TCP Socket.	[05]
	Client side code 2.5M and Server side code 2.5M	
	OR	
	Write short note on:	[05]
	SMTP	
	Intro-1M, architecture 2M, explanation 2M	
	DNS	[05]
	Intro-1M, architecture 2M, explanation 2M	
Q5 (b)	Draw and Explain TCP Congestion Control.	[05]
	Introduction-1M, Graph-1M, Each 3 stages for 1M each	