Reg No.:_____   Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S5 (S, FE) / S3 (PT) (S) Examination June 2024 (2019 Scheme)

Course Code: CST 303
Course Name: COMPUTER NETWORKS

Max. Marks: 100   Duration: 3 Hours

PART A
(Answer all questions; each question carries 3 marks)   Marks

1	Define simplex, half-duplex, full-duplex transmission modes. Give one example for each.	3
2	Encode the bit pattern 01001100011 using Differential Manchester encoding technique.	3
3	Differentiate between pure Aloha and slotted Aloha.	3
4	List the features of Fast ethernet.	3
5	Differentiate between static and dynamic routing.	3
6	Describe any two congestion control methods in virtual circuit subnets.	3
7	Explain the importance of Classless Inter Domain Routing.	3
8	Explain the features of ICMPv6.	3
9	How is iterative query resolution performed in DNS?	3
10	Describe the basic commands of SNMP.	3

PART B
(Answer one full question from each module, each question carries 14 marks)

Module -1

11	a)	Compare TCP/IP Reference model and OSI Reference model.	4
	b)	Explain the various performance indicators used in communication.	10
12	a)	With neat diagram, explain OSI reference Model.	10
	b)	How does the construction of optical fibre help in reducing the interference? Draw the structure of optical fibre.	4

Module -2

13	a)	Define Hamming distance and minimum Hamming distance. Calculate the pair wise Hamming distance and minimum Hamming distance among the following code words: 100000, 100110, 111101.	6

	b)	Compare 10Base2, 10Base5, 10Base-T and 10Base-F ethernet cabling.	8
14	a)	Draw the frame format of Ethernet.	7
	b)	Generate the CRC code for the data word of 110010101. The divisor is 10101.	7

Module -3

15	a)	Explain link state routing algorithm with an example.	10
	b)	What is flooding? Describe any two situations where flooding is advantageous.	4
16	a)	Explain how shortest path routing is performed. Illustrate with an example.	8
	b)	Explain the techniques for achieving good Quality of Service.	6

Module -4

17	a)	Explain OSPF routing algorithm.	7
	b)	Draw and Explain BOOTP message format.	7
18	a)	What is the use of ARP? Explain ARP operation and packet format.	8
	b)	A network on the Internet has a subnet mask of 255.255.240.0. What is the maximum number of hosts it can handle?	6

Module -5

19	a)	Explain the working of TCP.	8
	b)	Give the significance of FTP.	6
20	a)	Differentiate between TCP and UDP header format.	6
	b)	With a neat diagram, explain the working of WWW.	8

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