

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

MCA DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2025

Third Semester

Master of Computer Applications

BX4006 - Basics of Computer Networks

Regulations – 2021

Duration : 3 Hrs

Maximum: 100 Marks

PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

Q.No	Questions	BLT	CO	Marks
1.	What is the primary purpose of a computer network?	L2	1	2
2.	Give two examples of commonly used network protocols.	L2	1	2
3.	Name any two protocols in DLL.	L2	2	2
4.	Outline how a bridge reduces network congestion.	L2	2	2
5.	State the main difference between circuit switching and packet switching.	L1	3	2
6.	Mention the purpose of the Internet Control Message Protocol (ICMP).	L1	3	2
7.	Name the segments used in TCP three-way handshaking mechanism.	L1	4	2
8.	Name the two mechanisms of TCP uses to provide reliable data transmission.	L1	4	2
9.	Mention the role of a web server in the <u>WWW</u> .	L1	5	2
10.	What is the primary use of the RSA algorithm?	L1	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

Q.No	Questions	BLT	CO	Marks
11. a	Illustrate the functions of each layer in OSI model with a neat diagram.	L2	1	16
Or				
b	Describe the different types of transmission media which helps to transfer the signal from one system to another system.	L2	1	16
12. a i	Illustrate the different encoding strategies with relevant examples.	L2	2	8
ii	Explain CRC error detection mechanism with an example.	L2	2	8
Or				
b i	State and discuss the two commonly used techniques for flow control.	L2	2	8
ii	Explain the frame format of IEEE 802.3 and IEEE 802.5.	L2	2	8

13.	a	i	Describe the IPV4 header format with neat diagram.	L2	3	8
		ii	Summarize the uses of ICMP.	L2	3	8
Or						
	b	i	Discuss the importance of routing in network layer and write a brief note on Distance vector routing scheme.	L2	3	8
		ii	Compare and contrast IPv4 and IPv6.	L2	3	8
14.	a	i	Explain Fast retransmit and fast recovery TCP congestion avoidance algorithm.	L2	4	8
		ii	Illustrate the TCP header format with suitable diagram.	L2	4	8
Or						
	b	i	Illustrate and explain UDP and its packet format.	L2	4	8
		ii	List various congestion control mechanisms, Explain any one in detail.	L2	4	8
15.	a		Elucidate the working principle of DNS with an example.	L2	5	16
Or						
	b		Discuss the working of Simple Mail Transfer Protocol (SMTP). Can multimedia messages be transmitted using SMTP? Justify.	L2	5	16