

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV/DEC 2025***Fourth Semester**Artificial Intelligence and Data Science***CS3591 - Computer Networks****(Common to Fifth Semester Computer Science and Engineering &
Information Technology***Regulations - 2021**Duration : 3 Hrs**Maximum : 100 Marks***PART - A (ANSWER ALL QUESTIONS) (Marks 10*2=20)**

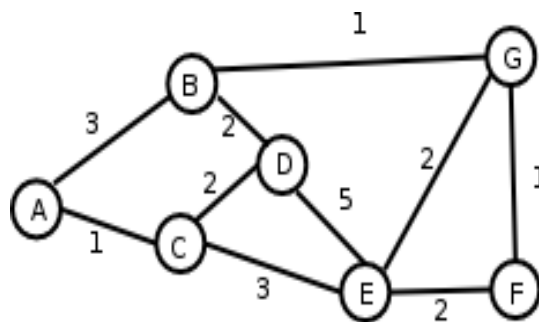
<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
1.	Why do we need a Domain Name System?	L2	1	2
2.	Compare OSI and TCP/IP models.	L2	1	2
3.	List few well known ports for UDP.	L1	2	2
4.	Name the techniques and policies that can prevent (avoid) congestion.	L1	2	2
5.	How many network addresses and host addresses are supported by class A and class B networks?	L1	3	2
6.	List the difference between Packet Switching and Circuit Switching.	L1	3	2
7.	Mention the role of a router.	L1	4	2
8.	Define Unicasting, Broadcasting and Multicasting.	L1	4	2
9.	Why is flow control and error control duplicated in different layers?	L2	5	2
10.	Find the hamming distance between the two pair of code words: A = 01011; B = 11110.	L3	5	2

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

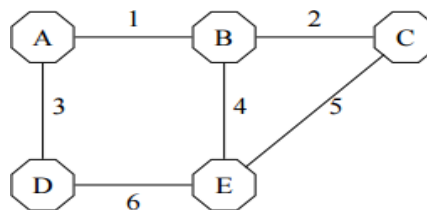
<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a i Explain about HTTP. Give the uses, state strengths and weaknesses.	L2	1	8
	ii Explain different types of networks in detail with neat a diagram.	L2	1	8
	Or			
	b i Discuss how the Simple Mail Transfer Protocol (SMTP) is useful in electronic mail.	L2	1	8
	ii Discuss the three main division of the domain name space.	L2	1	8
12.	a i With a neat architecture, Explain TCP and its sliding window algorithm for flow control.	L2	2	8
	ii What are the four aspects related to the reliable delivery of data?	L2	2	8
	Or			

- b i Discuss the effectiveness of Go Back N and Selective Repeat ARQ among the Sliding window Protocols. L2 2 8
- ii What happens in a three-way handshaking between any 2 devices? L2 2 8
13. a i Explain Packet Switching in detail. L2 3 8
- ii Explain about IPV6? Compare IPV4 and IPV6. L2 3 8
- Or
- b i Explain in detail about: i) ICMP ii) ARP iii) RARP. L2 3 8
- ii State the rules of non-boundary-level masking. L2 3 8

14. a i Explain Link state routing with Dijkstra's algorithm for the following graph. L3 4 8



- ii Explain Distance Vector Routing Algorithm for the graph given below. L3 4 8



Or

- b i Explain in detail the operation of OSPF protocol by considering a suitable network. L3 4 8
- ii What does a router do when it receives a packet with a destination address that it does not have an entry for, in its routing table? L2 4 8
15. a i Explain the various error detection techniques with example. L2 5 8
- ii Examine how Network Interface Card works. L2 5 8
- Or
- b i Explain the functioning of wireless LAN in detail. L2 5 8
- ii What do you mean by CSMA protocol? L2 5 8