

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)

Chromepet, Chennai - 600 044.

B.Sc.AI - END SEMESTER EXAMINATIONS - NOV'2024

SEMESTER - V

22UAICT5006 - Computer Networks

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Explain the differences between LAN, WAN, and MAN.
2. Describe the functions of routers, switches, and hubs in a network.
3. What factors affect the performance of wireless signals?
Analyze how they impact transmission quality.
4. How would you upgrade the local loop of a traditional telephone system to support broadband Internet?
5. Explain the basic functions of the data link layer in a computer network.
6. Evaluate how error detection and correction are managed by the data link layer in the Internet.
7. How would you apply Dijkstra's algorithm to find the shortest path in a given network?
8. Evaluate how the transport layer improves data transfer reliability.

Section C

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. Explain how the OSI model works and why it is important in networking.
10. Compare circuit switching and packet switching. Which is more efficient for voice communication and why?
11. Compare ALOHA and CSMA/CD in terms of handling network collisions. Which one would you recommend for a large wireless network, and why?
12. Discuss the differences between **IPv4** and **IPv6**. Why is IPv6 necessary for modern networks?
13. Analyze how TCP and UDP differ in handling data.
