

Roll.No.

25UAICT5006

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.Computer Science - END SEMESTER EXAMINATIONS - NOVEMBER 2025
SEMESTER - V

25UAICT5006 - Network Management

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

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

1. Explain the functions of each layer in the OSI reference model with suitable examples.
2. Describe the purpose of VLANs and outline the steps to configure Inter-VLAN routing on a Cisco switch.
3. Illustrate how Spanning Tree Protocol (STP) prevents switching loops and explain BPDU Guard operation.
4. Explain the functions of Syslog and NTP in network administration and show basic configuration commands.
5. Differentiate between RIP, EIGRP and OSPF based on algorithm, metrics and scalability.
6. Demonstrate the steps to configure IPv6 addressing and routing between two routers in Packet Tracer.
7. Compare Standard and Extended Access Control Lists with examples of permit/deny statements.
8. Explain the concept of Quality of Service (QoS) and how the trust boundary affects network performance.

Section C

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

9. Design a three-layer hierarchical network for a university campus and justify the placement of core, distribution and access devices.
10. Analyze a case where multiple VLANs fail to communicate after introducing a new switch. Identify probable causes and suggest corrective measures.

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11. Evaluate the process of backing up and restoring Cisco IOS and configuration files. Discuss its importance in disaster recovery.
12. Critically assess EIGRP versus OSPF in a multi-area enterprise network. Explain how redistribution between them can create routing loops and the methods to avoid them.
13. Assess the FirstHop Redundancy Protocol and Hot Standby Router Protocol(HSRP) in detail.
