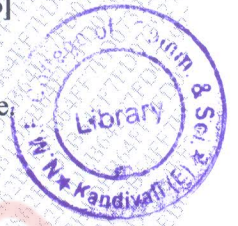


(2½ Hours)

[Total Marks: 75]



- N. B.: (1) **All** questions are **compulsory**.
(2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.
(3) Answers to the **same question** must be **written together**.
(4) Numbers to the **right** indicate **marks**.
(5) Draw **neat labeled diagrams** wherever **necessary**.
(6) Use of **Non-programmable** calculators is **allowed**.

1. **Attempt any three of the following:** 15
a. Explain in detail Architectures for the enterprise.
b. Discuss the PPIDIOO phases in detail.
c. Explain different layers of hierarchical Network design.
d. What are different redundancy techniques ? Discuss in detail.
e. Explain HSRP, VRRP and GLBP
f. Explain in details different Network Audit Tools.
2. **Attempt any three of the following:** 15
a. Compare and Contrast between Switches, Routers and Layer 3 switches
b. What are data center foundation components?
c. What are different types of Virtualization?
d. Explain Spanning Tree Protocol.
e. What is Campus LAN Design? What are the Best Practices for the same?
f. Discuss different strategies for Load Balancing in the Data Center.
3. **Attempt any three of the following:** 15
a. Write a short note on different WLAN Standards.
b. Explain in detail WLAN Controller Components.
c. Write Short notes on i) Frame Relay ii) Metro Ethernet
d. Discuss WAN and Edge Design Methodologies
e. What are the different methodologies for Optimizing Bandwidth Using QoS? Explain.
f. Explain various DMZ Connectivity implementation techniques.
4. **Attempt any three of the following:** 15
a. Explain IPV4 Header structure.
b. Write short notes on i) BOOTP ii) DHCP
c. Explain IPV6 Unicast Address, Anycast Address and Multicast Address
d. Discuss IPV6 Address-Assignment Strategies.
e. What are the techniques for IPv4-to-IPv6 Transition Mechanisms?
f. What are Routing Protocol Metrics and Loop Prevention techniques?
5. **Attempt any three of the following:** 15
a. What are different Network security threats?
b. Explain Security Risks.
c. Write short note on Risk assessment.
d. Write short notes on i) RMON ii) NetFlow
e. What are the techniques for Detecting and Mitigating Threats?
f. Compare and contrast IPS and IDS .