

(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 E-Commerce and Internet Connectivity Module
 - b. Write short note on Network Checklist
 - c. Write short note on Data Center and Virtualization
 - d. Explain hierarchical network models and state advantages of it.
 - e. Explain Load Balancing.
 - f. List and explain Project Deliverables.

2. **Attempt any three of the following:** 15
 - a. What is edge distribution? What are the security measures provided by edge distribution against threats?
 - b. Explain Data center cooling.
 - c. Explain steps of STP switch ports
 - d. Explain the devices used in LAN designs
 - e. Write a short note on SDN.
 - f. Explain Gigabit ethernet types.

3. **Attempt any three of the following:** 15
 - a. Explain WLC components and types of WLC interface.
 - b. Write a short note on ISDN.
 - c. Explain different types of Queuing Methods.
 - d. Explain Full mesh topology, Partial Mesh topology and Point to point topology
 - e. Explain DMZ Connectivity.
 - f. What do you mean by redundancy? Explain N+1 WLC redundancy, N+N WLC redundancy, N+N+1 WLC redundancy.

4. **Attempt any three of the following:** 15
 - a. Write a short note on IPV6 Neighbour Discovery Protocol
 - b. Write a short note on Route Summarization.
 - c. Define following BGP attributes: i)Next-Hop Attribute ii)Local Preference Attribute iii) Origin Attribute iv)Weight v)MED Attribute
 - d. Define internet Protocol version 4(IPv4). Explain Ipv4 Header
 - e. Explain OSPF LSA Types.
 - f. What is DNS? Explain process of DNS name resolution.

5. **Attempt any three of the following:** 15
 - a. Write short note on SNMP protocol.
 - b. Write a short note on Risk Assessment.
 - c. What are different methods to check and authorize identity credentials?
 - d. Explain different types of attacks that can impact the security of IT systems?
 - e. Explain Encryption Keys in detail.
 - f. Explain the guidelines for firewall.