TIME: 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 the Architecture for Enterprises in detail.

b. What are the different layers of Hierarchical Network Design? Explain.

c. Define Enterprise Campus Module.

d. Discuss the PPDIOO phases in detail.

e. Write a short note on the Network checklist.

f. Explain the terms RDP, RIP, GLBP, and ARP.

2. Attempt *any three* of the following: **15**

a. List out and explain the hardware devices used in LAN design.

b. Explain the states of STP switch ports.

c. What are the challenges in Data Center?

d. What is campus LAN Design? What are the best practices for the same?

e. Define Data Center Cooling in detail.

f. Write a short note on different types of Virtualizations.

3. Attempt *any three* of the following: **15**

a. Write a short note on WLAN Security.

b. Explain the following terms:
(i) Full Mesh topology (ii) Partial Mesh topology (iii) Point to Point Topology.

c. What is Unified Wireless Network (UWN)? Explain the elements of UWN architecture.

d. Compare the WLC components and the WLC interfaces.

e. What is wireless technology? List out the different wireless implementations.

f. Discuss DMZ Connectivity in detail.

4. **Attempt *any three* of the following:** **15**

a. Write a note on the IPv4 Header structure in detail.

b. List out the different types of IPv6 Address.

c. What are the techniques for IPv4-to-IPv6 Transition Mechanisms?

d. Write down the different types of IPv6 Address Assignment Strategies.

e. Define BGP? Explain the BGP attributes.

f. Explain the OSPF LSA types.

5. **Attempt *any three* of the following:** **15**

a. Write a short note on Risk Assessment Components and Risk Index.

b. List out the different security threats.

c. Define i) SNMP ii) CDP

d. What are the key aspects of Encryption Fundamentals?

e. Explain Network Access Control in detail.

f. What are the recommended guidelines while implementing firewalls?

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