

(3 Hours)

[Total Marks : 80]

N.B.:

- (1) Questions No. 1 is compulsory.
- (2) Solve any three questions from remaining five questions.
- (3) Assume suitable data if necessary.

Q1 In the Cold Storage House, there is a main Building and three (03) consumable items storage blocks in the campus. The main building is the inventory management block where registration of new items takes place. The main building has 4 floors. (20)

The Cold storage has identified ERP software, which should be accessible by the employees. The software is installed on a server at the inventory management block. At the ground floor, there are 12 computers at the scanning section. At other remaining floors, there is one computer user each. The farthest distance between the computer on the top most floor and the ground floor is less than 50 meters.

The consumable items storage blocks have 3 floors each, with 06 computers in the ground floor of each block. The max distance between the storage blocks and the inventory management blocks is less than 150 Meters. The computers in the storage block may be increased based on future expansion plans.

1. Hardware requirement analysis in main building with quantity.
2. Hardware requirements analysis in storage blocks.
3. The employees should receive dynamic IP addressing from a central server.
4. Network should be loop free at Layer 2.
5. Every computer should be able to access the ERP software from each of the location using a fixed IP address.
6. IP Network design table.
7. Identify configurations on the hardware wherever appropriate.
8. Network topology diagram with necessary equipment's.

Q2. (a) What is a DMZ? Explain its importance in Network Security? Discuss its limitations. (10)

(b) What is Ethernet technology? Discuss advantages of Ethernet over Token Ring, FDDI and ATM LAN Emulation (LANE). (10)

Q3. (a) What is WAN? What key features should be considered for selecting a WAN provider? (10)

(b) What is TIA-942-A Data Center Standard? What guideline does it includes? (10)

Q4. (a) What is a Data center? List three data center topologies? Explain any one in detail. (10)

(b) Discuss the wireless network component architecture with diagram. (10)

- Q5. (a) What is a SAN? Discuss its role in data centers. (10)
(b) What is network Virtualization? How it is incorporated in Software Defined Networks? (10)
- Q6. (a) Explain how SDN changed traditional Enterprise Network Design? Highlight with example. (10)
(b) Describe the relevance of Narrow Band and Spread Spectrum WLAN technologies (10)
