M.E Sem I (CBCGS) Dec 2017
ITID (IT)

Q. P. Code: 25749

(3 Hours) [Total Marks : 80]

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

Q1.a) In the Hospital there is main block and three wards in the campus. The main block is administrative block where registration of new patients takes place. The main block has 5 floors. The hospital has identified hospital management software, which should be accessible by the employees. The software is installed on a server at the administrative block. At the ground floor there are 15 computers at the billing section. At other 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 70 meters. The wards have 5 floors each, with 10 computers in the ground floor of each wards. The distance between the wards and the blocks are less than 80 Meters. The computers in the wards may be increased based on future expansion plans.

    i) Hardware requirement analysis in the block with quantity
    ii) Hardware requirement analysis in wards
    iii) The employees should receive dynamic IP addressing from a central server.
    iv) Network should be loop free at Layer 2
    v) Every computer should be able to access the hospital management software from each of the location using a fixed IP address.
    vi) IP Network design table
    vii) Identify configurations on the hardware wherever appropriate.
    viii) Network Topology diagram with necessary equipment's. [15]

b) What are the benefits of having hierarchy in addressing and routing models? [5]

Q2. a) Describe security issues associated with RIPv2, OSPF, EIGRP, BGP? How these issues can be mitigated ? [10]

b) Explain about Cloud Reference Architecture framework? Write in brief about Data Center Topology, Data Center Tiers and Data Design with example? [10]

Q.3 a) Explain how SDN changed traditional Enterprise Network Design? Write in brief about PoX and NoX. [10]

b) What are the different types of architectural consideration that are take in Network Management. Discuss in detail any two considerations in detail? [10]

Q4. a) What is a Data Centers? What topologies are used for its design? Explain one topology in detail. [10]

b) Explain the wireless network component architecture [10]

Q5. 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]

Q6 a) What is Ethernet technology? How it's better than Token Ring, FDDI and ATM LAN Emulation (LANE). [10]

b) What are the most important criteria for selecting a WAN service provider. [10]

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