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Question Paper Code: 92041

M.E. DEGREE EXAMINATION, OCTOBER - 2014.

Elective

Computer Science and Engineering (With Specialization in Networks)

01PNE514 – STORAGE AREA NETWORKS

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. State the importance of storage area networks.
2. Compare storage area network with network attached storage.
3. How can the loop initialization process be triggered in arbitrated loop?
4. How will you determine the total number of loop devices per segment in arbitrated loop?
5. Draw the functional diagram of host bus adapter.
6. State the need of fiber channel analyzer.
7. List out the storage network management issues.
8. What is the role of MIB and SMI in SNMP?
9. Draw the diagram of ISP configuration using fiber channel.
10. What is remote tape vaulting?

PART - B (5 x 14 = 70 Marks)

11. (a) Elaborate SCSI bus architecture. (14)

Or

(b) (i) Draw the fiber channel frame format and explain the framing protocol in fiber channel. (8)

(ii) Discuss about flow control mechanism in fiber channel. (6)

12. (a) Illustrate about fabric zoning. (14)

Or

(b) Draw and explain loop port state machine logic. Write the steps in loop initialization sequence in arbitrated loop. (14)

13. (a) Explain about different RAID levels used in fiber channel. (14)

Or

(b) (i) With suitable example, explain the operation of channel analyzer. (6)

(ii) Explain in detail about Hub architecture and Hub management. (8)

14. (a) Explain about SAN in-band management and out-band management. (14)

Or

(b) (i) Write about SAN management hierarchy. (6)

(ii) Explain about integration of storage, systems and enterprise management. (8)

15. (a) (i) Explain briefly about server clustering in storage area network. (7)

(ii) Summarize about campus storage networks. (7)

Or

(b) With neat diagram, illustrate about LAN free and Server free tape backup. (14)

PART - C (1 x 10 = 10 Marks)

16. (a) Suggest and explain a disaster recovery plan for an enterprise. (10)

Or

(b) What are the various design considerations for arbitrated loops? Describe. (10)