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Question Paper Code: 92041

M.E. DEGREE EXAMINATION, APRIL - 2015.

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. List the merits of centralized data storage.
2. What are the challenges of NAS?
3. Mention the disadvantages of Arbitrated loop topology.
4. How can you build an extended SAN?
5. List the types of iSCSI bridges.
6. What is a FC JBOD?
7. What are the access control components in managing SAN?
8. Mention the role of SNMP and TELNET in storage network management.
9. What do you mean by server clustering?
10. Mention the advantages and limitations of FC over WAN.

PART - B (5 x 14 = 70 Marks)

11. (a) Explain in detail the access methods, addressing and other issues in front-end networking of server. (14)

Or

- (b) Elaborate on the various layers, Transport and Physical layer options, Flow control and Class of service in Fiber Channel Protocol. (14)

12. (a) Describe the design considerations, topology, addressing and initialization of FC SAN Arbitrated Loop (14)

Or

- (b) Explain the logins, loop support, ports and resource isolation in FC Switched Fabric, with necessary sketches. (14)
13. (a) Write a note on problem isolation techniques for SAN. Narrate the assistance provided by Fiber Channel Analyzers in this regard. (14)

Or

- (b) Describe the role of GBICs, HBAs and RAID in deciding performance of FC SANs. Underline the differences between a NIC and HBA. (14)
14. (a) Highlight the issues in managing storage networks. Differentiate between In-band and Out-of-band management. (14)

Or

- (b) Describe the constraints and concerns in integrating and managing storage and systems in enterprise networks. (14)
15. (a) Explain in detail, the various techniques available for disaster recovery. (14)

Or

- (b) Describe the implementation of LAN-free and Server-free tape backup. (14)

PART - C (1 x 10 = 10 Marks)

16. (a) ABC Corporation is trying to decide between an integrated or a gateway NAS solution. The existing SAN at ABC will provide capacity and scalability. The IT department is considering a NAS solution for the training department at ABC for training videos. The videos will only be used by the training department for evaluation of instructors. Determine a NAS solution (10)

Or

- (b) A performance problem has been reported on a database. Monitoring confirms that at 12am, a problem surfaced and access to the database is severely affected until 3pm every day. This timeslot is critical for business operations and an investigation has been launched. A reporting process that starts at 12pm contends for database resources and constrains the environment. Create monitoring and management procedures, tools and alerts to ensure accessibility, capacity, performance and security. (10)