



P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Second Semester, M.Tech - Computer Engineering (MCEN)

Semester End Examination; May/June - 2018

Storage Area Network

Time: 3 hrs

Max. Marks: 100

Note: Answer *FIVE* full questions, selecting *ONE* full question from each unit.

UNIT - I

- 1 a. With a neat block schematic, explain the server centric IT architecture and bring out its limitations. 10
- b. Describe the various steps to be followed to replace an old server with a new server connected to a storage network. 10
- 2 a. Explain the architecture of the intelligent Disk Storage System [DSS] with a neat diagram. 10
- b. Discuss on: i) RAID 0 ii) Instant copy 10

UNIT - II

- 3 a. With a neat diagram, explain the importance of each layer in the fiber channel stack. 10
- b. Name and explain the important protocols that support transmission of storage data traffic via TCP/IP. 10
- 4 a. With a neat block schematic, explain shared disk file systems. 10
- b. Explain the basic principles of network file system. 10

UNIT - III

- 5 a. Discuss with neat block diagram, storage virtualization at server and network levels along with their advantages and disadvantages. 10
- b. Discuss in detail asymmetric storage virtualization and its advantages and disadvantages. 10
- 6 a. Explain the implementation consideration of storage virtualization for the : 10
 - i) Realization of the virtualization entity
 - ii) Efficient use of resources by dynamic storage allocation
 - iii) Efficient use of resources by data migration
- b. Discuss how storage virtualization is achieved on block level and on file level. 10

UNIT - IV

- 7 a. With a neat block schematic, explain the following SAN components : 10
 - i) Network port ii) Software port iii) Hardware port
- b. With a neat diagram discuss the fabric OS, Micro-kernel components. 10
- 8 a. Write briefly on : 10
 - i) Entry level SAN configuration
 - ii) SAN hardware consideration

- b. Using the port configurations, explain the importance and usage of F-port, E-Port and G-Port, in fabric channel switch. 10

UNIT - V

- 9 a. Explain the following requirements for a management systems for storage networks : 10
- i) User related requirements
 - ii) Components related requirements
- b. With architecture diagram, explain SNMP. 10
- 10 a. Explain the characterization of management interface. 10
- b. Explain following two management protocols : 10
- i) CIM
 - ii) WBEM

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