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

(An Autonomous Institution affiliated to VTU, Belgaum)

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

Semester End Examination; June - 2016

Storage Area Networks

Time: 3 hrs

Max. Marks: 100

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

UNIT - I

- 1 a. Explain storage Centric IT Architecture with a neat diagram, explain its advantages. 10
- b. With neat diagram, describe the process of replacing a server with storage network. 10
- 2 a. With a neat diagram explain the instant copy operation of intelligent disk sub system. 6
- b. Describe different cable where I/O channels can be designed with built in redundancy. Which cable is best? 6
- c. Compare the performances of RAID4 and RAID5 also explain the parity blocks calculations. 8

UNIT - II

- 3 a. Explain the fiber channel port types. 8
- b. With neat diagram explain the three topologies of fibre channel standard. 6
- c. List and write two types of NAS file system included in NAS devices. 6
- 4 a. Describe the performance bottle neck in file servers. 8
- b. Bring out the differences between fibre channel and NAS. 6
- c. Explain volume manager and Journaling. 6

UNIT - III

- 5 a. Define storage virtualization. Briefly explain the implementation considerations. 10
- b. List the advantage and disadvantages of storage virtualization in the network. 10
- 6 a. Explain storage virtualization at block level and file level with necessary diagram. 10
- b. What are the advantages and disadvantages of Asymmetric storage virtualization? 10

UNIT - IV

- 7 a. Explain the basic components of Switch operating system. Illustrating with neat diagram. 10
- b. Describe the functions of Host Bus Adaptors (HBA). 10
- 8 a. Briefly explain the four supporting components critical to SAN configuration and options. 4
- b. Explain the five services offered by Fabric OS with specific to fibre channel I/O operation. 10
- c. Define frame, sequence and exchange; Also explain the classes of operations defined by the FC standard useful to data storage operations. 6

Contd...2

UNIT - V

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| 9 a. | Explain five core components of managements system used in the storage network. | 10 |
| b. | Explain the Architecture of SNMP. | 10 |
| 10 a. | With a neat diagram explain the elements of WBEM management system. | 10 |
| b. | List SNMP defined four operations for monitoring and configuration of managed device. | 4 |
| c. | Write a note on IN-Band management. | 6 |

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