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Eighth Semester B.E. Degree Examination, June/July 2011

Storage Area Networks

Time: 3 hrs.

Max. Marks:100

Note: Answer FIVE full questions selecting at least TWO questions from each part.

PART – A

- 1 a. What are the limitations of server-centric IT architecture? How is it overcome? Explain. (10 Marks)
- b. Briefly discuss the benefits of storage networks on business applications. (10 Marks)
- 2 a. How are I/O channels designed with built-in redundancy for increased tolerance of faults of the disk subsystems? Explain briefly. (08 Marks)
- b. Explain the following RAID levels with necessary block diagrams :
i) RAID 0 ii) RAID 10 (12 Marks)
- 3 a. Describe the necessary technique which helps to protect the data against any catastrophic situations in a network. (10 Marks)
- b. Write briefly on : i) LUN masking ii) SCSI and storage networks. (10 Marks)
- 4 a. Explain the importance of each layer in the fibre channel protocol stack. (10 Marks)
- b. With a neat block diagram, explain the generic layout of NAS hardware components. (10 Marks)

PART – B

- 5 a. Define the following terms :
i) NAS server ii) NAS gateway iii) DAFS
iv) Journaling v) Volume manager (10 Marks)
- b. Clearly bring out the differences between the fibre channel and NAS. (10 Marks)
- 6 a. What is storage virtualization? How is it achieved on block level and on file level? Explain. (10 Marks)
- b. How is storage virtualization achieved on various levels of the storage network? Explain any one level in detail. (10 Marks)
- 7 a. Explain the three important parts and its uses in the fibre channel switch. (10 Marks)
- b. Write briefly on :
i) Fibre channel RAID
ii) Basic functions of the fibre channel host bus adapter. (10 Marks)
- 8 a. Explain the basic components of the Switch's operating system. (10 Marks)
- b. Give a view of SAN as an entire solution for implementing a SAN configuration into a data center. Also indicate the main challenges faced during its implementation. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and/or equations written eg, 42+8 = 50, will be treated as malpractice.

