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**Seventh Semester B.E. Degree Examination, Dec.2014/Jan.2015**  
**Storage Area Networks**

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions, selecting  
atleast TWO questions from each part.**

**PART – A**

- 1 a. Explain the key characteristics of a data center with a neat diagram. (07 Marks)
- b. Discuss the functions of a logical volume manager, with a neat diagram. (06 Marks)
- c. Explain the concept of compute virtualization along with its advantages with a neat diagram. (07 Marks)
- 2 a. With a neat diagram, explain the components of an intelligent storage system. (07 Marks)
- b. Explain the features of RAID – 6 with a diagram. (06 Marks)
- c. Discuss the features of high end storage systems, with a neat diagram. (07 Marks)
- 3 a. Explain the connectivity options of FC [Fiber channel] architecture with relevant diagrams. (10 Marks)
- b. Discuss the different layers of fiber channel protocol stack, with a neat diagram. (04 Marks)
- c. Explain the different types of FC – ports, with a neat diagram. (06 Marks)
- 4 a. Explain the components of NAS with a neat diagram. What are the benefits of NAS? (08 Marks)
- b. Describe the NAS gateway connectivity, with a neat diagram. (08 Marks)
- c. Write a short note on CIFS. (04 Marks)

**PART – B**

- 5 a. Explain the architecture of CAS with a neat diagram. List out the features of CAS. (10 Marks)
- b. Define storage virtualization. What are the forms of storage virtualization? (04 Marks)
- c. Explain block level storage virtualization, with a neat diagram. (06 Marks)
- 6 a. Define the following terminologies :  
i) MTBF ii) RPO iii) MTTR iv) RTO v) Disaster Recovery. (10 Marks)
- b. Explain the backup operation, with a neat diagram. (10 Marks)
- 7 a. Explain LVM based local replication, with a neat diagram. Discuss the advantages and disadvantages. (10 Marks)
- b. Explain synchronous and asynchronous modes of remote replication with a neat diagram. (10 Marks)
- 8 a. Write a note on risk triad. (10 Marks)
- b. Explain the concept of kerberos, with a neat diagram. (10 Marks)

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