ONE TIME EXIT SCHEME

USN | | | | | | | | | | |

10CS/IS765

Seventh Semester B.E. Degree Examination, April 2018
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. With a neat diagram, explain the key characteristics of data center elements. **(08 Marks)**
    b. Explain the key challenges in managing information. **(03 Marks)**
    c. Consider a disk I/O system in which an I/O request arrives at the rate of 100 I/O per second. The disk service time, R_s is 8ms.
       1) Compute the following
          i)   Utilization of I/O controller
          ii) Total Response time
          iii) Average Queue size
          iv) Total time spent by a request in a Queue.
       2) Compute the proceeding parameter if the service time is halved. **(09 Marks)**

2   a. Explain the following techniques used in RAID
       i) Stripping   ii) Mirroring   iii) Parity. **(06 Marks)**
    b. With the aid of a neat diagram, explain
       i) RAID 1 + 0   ii) RAID 0 + 1. **(06 Marks)**
    c. Describe the components of the intelligent storage system. **(08 Marks)**

3   a. Compare the various features of IDE/ATA with SCSI. **(06 Marks)**
    b. With a neat diagram explain SCSI – 3 client server modes. **(05 Marks)**
    c. Explain the various Interconnectivity options supported by the Fibre channel architecture. **(09 Marks)**

4   a. Enlist the various Benefits offered by NAS. **(08 Marks)**
    b. What are the factors that affect NAS performance at different levels? **(07 Marks)**
    c. Describe iSCSI protocol stack with the aid of a neat diagram. **(05 Marks)**

PART – B

5   a. Explain content Addressed Storage (CAS) architecture in detail. **(08 Marks)**
    b. Discuss the various storage virtualization challenges that need to be addressed. **(04 Marks)**
    c. Describe the different forms of virtualization. **(08 Marks)**

6   a. Explain the Business continuity planning life cycle. **(10 Marks)**
    b. Explain the Backup and Restore operations with the aid of a neat diagram. **(10 Marks)**

7   a. Compare the various storage array based replication technologies. **(10 Marks)**
    b. Explain the basic modes of Remote replication with neat diagram. **(10 Marks)**

8   a. Enlist any five protection strategies that must be implemented in various security zones in data centers. **(10 Marks)**
    b. Describe the various management tasks in storage infrastructure. **(10 Marks)**

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