

(3 Hours)

[ Total Marks : 100

- N.B. :** (1) Question No. 1 is **compulsory**.  
(2) Solve any **four** questions from remaining **six** questions.  
(3) Assume suitable **data** wherever **necessary**.

1. a) The average I/O size of an application is 64 KB. The following specifications are available from the disk manufacturer: average seek time =5 ms, 7,200 rpm, transfer rate=40 MB/s. Determine the maximum IOPS that could be performed with the disk for this application. Taking this case as an example, explain the relationship between disk utilization and IOPS. (10)
- b) What are the components of NAS? Explain NAS Implementations. (10)
2. a) Explain disk drive components with neat diagram. (10)
- b) Explain SNIA storage virtualization taxonomy with its configuration implementations. (10)
3. a) Explain Object Storage and Retrieval in CAS. (10)
- b) Explain storage security domains with reference to threats, availability controls and examples. (10)
4. a) Explain the parameters and components for monitoring the storage infrastructure with monitoring example. (10)
- b) Explain remote replication technologies with neat diagrams. (10)
5. (a) Explain business continuity terminologies. (10)
- b) Explain RAID levels in detail with neat diagram. (10)
6. a) Explain various fibre channel ports with neat diagram. (10)
- b) Explain the architecture of intelligent storage system in detail. (10)
7. Write short notes on the following.(any 4): (20)
  - a) Backup granularity
  - b) Zoning
  - c) Topologies for iSCSI connectivity
  - d) Storage management activities
  - e) Uses of Local Replicas