

[Time: Three Hours]

[Marks:80]

- Note: 1. Question number 1 is compulsory. Solve any three out of remaining.
2. Draw figure wherever necessary.
3. Assume suitable data wherever necessary.

- 1 (a) Consider an application that requires 1TB of storage capacity and performs 4900 IOPS. Application I/O size is 4 kB. As it is business critical application, response time must be within an acceptable range. Specification of available disk drive:
Drive capacity = 73 GB; 15,000 rpm; 5 ms average seek time; 40 MB/s transfer rate
Calculate the number of disks required? 10
- (b) An application that generates 3600 IOPs with 60% reads and 40% writes. Calculate the IOPS generated for RAID level 1, 4 and 6. Also calculate storage efficiency and usable capacity for RAID levels 3, 5 and 6 with number of disks available are 5 and each disk has storage capacity of 120 GB. 10
- 2 (a) Compare and contrast different RAID levels. 10
- (b) Explain benefits Information Lifecycle Management with respect to the challenges of Information Management. 10
- 3 (a) Explain the components of Intelligent Storage System and its types. 10
- (b) Explain FC ports and login types. 10
- 4 (a) Explain VIA with the help of block diagram. 10
- (b) Explain the architecture and implementation related limitations for efficient storage management. 10
- 5 (a) Explain the storage virtualization challenges.. 10
- (b) Explain the components and types of Information System. 10
- 6 Write short notes on: (any four) 20
- a. Business Impact Analysis(BIA)
 - b. Zoned Bit Recording
 - c. Infiniband
 - d. Document Surrogates
 - e. Network File System
 - f. Document Term Matrix
