B.E. (IT) (Sem-VII) (CBCGS)   Dec-2022

(Time : 3 Hours)   (Total Marks: 80)

N.B.: 1. Question No.1 is compulsory.

2. Answer any three out of remaining questions.

3. Assume suitable data if necessary.

4. Figures to the right indicate full marks.

Q1.

a. Explain meaning of zoned bit recording.   (05)

b. Differentiate between local file system and network file system.   (05)

c. Draw neat labeled diagram, showing an Intelligent Storage System.   (05)

d. Give Comparison between RPO and RTO.   (05)

Q2.

a. Consider an application that requires 1TB of storage capacity and performs 4900   (10)
IOPS. Application I/O size is 4kB. As it is a business critical application, response
time must be within an acceptable range. Specification of available disk drive: Drive
capacity 73 GB; 15000rpm; 5ms average seek time; 40 MB/s transfer rate. Calculate
the number of disks required?

b. What is Information Security? What are the different security methods and storage   (10)
security challenges?

Q3.

a. Explain FC protocol stack and FC SAN topologies.   (10)

b. Explain Capacity planning in terms of management of Storage Area Networks.   (10)

Q4.

a. Explain SAN architecture with diagrams and explain its uses.   (10)

b. Discuss the various factors that affect the NAS performance and availability in detail.   (10)

Q5.

a. An application that generates 3600 IOPS with 60% reads and 40% writes. Calculate   (10)
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 the number of disks available are 6
and each disk has storage capacity of 100 GB.

b. What is Business Continuity? Explain BC planning life cycle   (10)

Q6.

a.   How to apply the SAN to OLTP Workloads?   (10)

b.
     What are the considerations when we perform integration of SAN and NAS   (10)

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