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**Question Paper Code: 31261**

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2016

Elective

Computer Science and Engineering

01UCS902 - INFORMATION STORAGE MANAGEMENT

(Common to Information Technology)

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Differentiate between data and information.
2. What are the techniques used to define different RAID levels?
3. What are the different login types of FC?
4. Illustrate a short procedure for retrieving data from CAS.
5. Define business continuity and information availability.
6. Discuss about virtual provisioning.
7. Name few services provided by cloud computing to its users.
8. List out some cloud enabling technologies.
9. List out few benefits of ILM.
10. State the importance of secured storage infrastructure.

PART - B (5 x 16 = 80 Marks)

11. (a) A hospital uses an application that stores patient data in the form of large binary objects in an Oracle database. The application is hosted on a UNIX server, and the hospital staff accesses the records through a Gigabit Ethernet backbone. The storage array of the server has 6 terabytes of usable capacity. (i) Explain the core elements of the data center. What are the typical challenges the storage management team may face in meeting the service level demands of the hospital staff? (ii) Describe how the value of this patient data might change over time. (16)

Or

- (b) Consider a disk I/O system in which an I/O request arrives at the rate of 80 IOPS. The disk service time is 6ms.

(i) Compute the following:

- ◆ Utilization of I/O controller
- ◆ Total response time
- ◆ Average queue size
- ◆ Total time spent by a request in a queue

(ii) Compute the preceding parameter if the service time is halved.

(iii) Plot a graph showing the response time, utilization, considering 20 percent, 40 percent, 80 percent and 100 percent utilization of the controller. Describe the conclusion that could be derived from the graph. (16)

12. (a) Acme Corporation is trying to decide between an integrated or a gateway NAS solution. The existing SAN at Acme will provide capacity and scalability. Develop an NAS solution and explain the reasons for your choice. (16)

Or

- (b) A company is considering implementing storage. They do not have a current storage infrastructure to use, but they have a network that gives them good performance. Propose a solution by considering native and bridged iSCSI and explain your recommendations on your connectivity preference. (16)

13. (a) (i) Discuss about Business Continuity Planning (BCP) Process. (8)  
(ii) Write notes on Backup/recovery process and operation. (8)

Or

(b) Discuss in detail about how local replication differs from remote replication. (16)

14. (a) Explain various cloud deployment models and different layers of cloud computing. (16)

Or

(b) Explain about cloud virtualization and the challenges that would occur during virtualization. (16)

15. (a) List the major security domains. Explain about the security threats in each domain and the controls that can be applied. (16)

Or

(b) Give a brief note on implementation of ILM with an example scenario. (16)

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