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**Question Paper Code: 59202**

B.E./B.Tech. DEGREE EXAMINATION, MAY 2018

Elective

Information Technology

15UCS902 INFORMATION STORAGE MANAGEMENT

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer All Questions

PART A - (5x 1 = 5 Marks)

- \_\_\_\_\_ is the process of assigning storage resources to hosts based on capacity, availability, and performance requirements of applications running on the host. CO1- R  
(a) RAID (b) Storage provisioning  
(c) Cache (d) Disk
- The two prominent protocols used to extend SAN storage using TCP/IP protocol. CO2- U  
(a) iSCSI & FCIP (b) iSCSI & FCoE (c) iSCSI & IP (d) FCIP & FCoE
- \_\_\_\_\_ enables replication of data between heterogeneous storage arrays. CO3- R  
(a) SAN based replication (b) 3 site replication  
(c) Storage array based remote replication (d) Disk buffered replication
- Which cloud computing feature allows for server consolidation resulting in increased asset utilization and decreased data centre energy needs? CO4- R  
(a) Virtualization (b) Provisioning (c) Automation (d) Governance

5. Which of the following virtualization techniques enables multiple operating systems and applications to execute simultaneously in different virtual machines on one physical computer? CO5- R
- (a) Server Virtualization (b) Memory Virtualization
- (c) Network Virtualization (d) VSAN

PART – B (5 x 3= 15Marks)

6. What are the key activities in managing the data center? CO1- U
7. What are the components of NAS? CO2- U
8. State the different types of Backup Topologies with neat diagram. CO3- U
9. What are the essential characteristics of cloud computing? CO4- U
10. What is the purpose of performing operation backup, disaster recovery and archiving? CO5- U

PART – C (5 x 16= 80Marks)

11. (a) A big enterprise uses a web application, which stores lots of image data in the form of large binary objects in an Oracle database. The web application is hosted on a UNIX server, and the employee in an enterprise accesses the images through a Gigabit Ethernet backbone. Storage array provides storage to the UNIX server, which has 6 terabytes of usable capacity. State the typical challenges, the storage management team may face in meeting the service level demands of the employees in the enterprise. Also, suggest a suitable ILM strategy for designing the optimal storage infrastructure stating the hardware and software requirements. Explain the implementation of tiered storage in optimizing storage infrastructure. CO1-Ana (16)

Or

- (b) Summarize the components of an intelligent storage system and explain in detail. CO1 -Ana (16)
12. (a) Write about Fibre channel architecture and its interconnectivity options. Specify the advantage of FC-SW over FC-AL. CO2 -U (16)
- Or
- (b) (i) With the help of the diagram, discuss NAS components and its implementation. Also, state the factors that affect the NAS performance and availability. CO2 -U (8)
- (ii) Discuss how a Content Addressed Storage solution fits into an Information Lifecycle Management Strategy. CO2 -U (8)
13. (a) (i) Explain in detail the various activities performed at each stage of Business Planning lifecycle. CO3- U (8)
- (ii) List out the various steps involved in implementing backup and restore operations. CO3- U (8)
- Or
- (b) An organization is planning a data center migration. They can only afford a maximum of two hours downtime to complete the migration. Explain how local and remote replication technology can be used to meet the downtime requirements. CO3- U (16)
14. (a) Explain in detail about cloud deployment models with suitable example. CO4-U (16)
- Or
- (b) Discuss about cloud migration and its challenges. CO4 -U (16)
15. (a) Discuss in detail about storage security domains. CO5- U (16)
- Or
- (b) Discuss about the possible threats that occur in the application access and management access domains. Also describe the defensive mechanism in storage and management infrastructure. CO5- U (16)

