

Roll No: -----



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, May 2018

Program: B.Tech(CS+LLB)

Subject (Course): Storage Technology Foundations

Course Code : CSEG333

No. of page/s: 1

Semester – VI

Max. Marks : 100

Duration : 3 Hrs

SET-A

Section-A

- (a) What do you mean by Information Lifecycle Management (ILM)? (3.5 Marks)

(b) Mention some benefits of ILM. (3.5 Marks)
- The marketing department at a mid size firm is expanding. New hires are being added to the department and they are given network access to the department's files. IT has given marketing a networked drive on the LAN, but it keeps reaching capacity every third week. Current capacity is 500 gigabytes (and growing), with hundreds of files. Users are complaining about LAN response times and capacity. As the IT manager, what could you recommend to improve the situation? (7 Marks)
- What are the key challenges for management of information? (8 Marks)
- Elaborate Device components of NAS with the help of diagram. (8 Marks)

Section-B

- (a) Mention the comparison of different types of RAID. (10 Marks)

(b) What are the benefits of using RAID 3 in a backup application? (5 Marks)
- Explain the physical components of host of Storage system Environment. (10 Marks)
- Diagrammatically explain the components of SAN. (10 Marks)
- Elaborate the benefits of NAS. (10 Marks)

Section-C

- (I) Mention two differences between : (4X2=8 Marks)

 - Data and Information
 - Switches and Hub
 - DAS and NAS
 - NFS and CIFS
- (II) Mention atleast four types of data that can be created by an individual? (2 Marks)
- (a) Define zoning? What are the types of zoning? (2+3 Marks)

(b) Explain with the help of diagram the difference between General Purpose Server and NAS Server. (10 Marks)

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SET-B

Section-A

1. (a) What is Information Lifecycle Management (ILM)? (3.5 Marks)
(b) Mention some benefits of ILM. (3.5 Marks)
2. A large company is considering a storage infrastructure—one that is scalable and provides high availability. More importantly, the company also needs performance for its mission-critical applications. Which storage topology would you recommend (SAN, NAS, IP SAN) and why? (7 Marks)
3. (a) What are the benefits of using multiple HBAs on a host? (4 Marks)
(b) Explain the block-level access protocols of Direct Attached Storage (DAS). (4 Marks)
4. Mention the factors that can affect the performance of DAS. (8 Marks)

Section-B

5. (a) Mention the comparison of different types of RAID. (10 Marks)
(b) What are the benefits of using RAID 3 in a backup application? (5 Marks)
6. Explain the SCSI Communication Model. (10 Marks)
7. Diagrammatically explain the components of SAN. (10 Marks)
8. Elaborate the benefits of SAN. (10 Marks)

Section-C

9. (I) Mention two differences between : (4X2=8 Marks)
 - (a) Data and Information
 - (b) Switches and Hub
 - (c) DAS and NAS
 - (d) NFS and CIFS
(II) Mention atleast four types of data that can be created by an individual? (2 Marks)
10. What is zoning? Discuss a scenario, (5+5+5 Marks)
 - (a) where soft zoning is preferred over hard zoning.
 - (b) where hard zoning is preferred over soft zoning.