UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, July 2020

Course: Storage Technology Foundation
Program: BT-CSE-Spz-OSSOS-VIII
Course Code: CSIB 255

Semester: 8
Time 03 hrs.
Max. Marks: 100

Instructions:

SECTION A

S. No.		Marks	CO
Q 1	What is the meaning of RAM, and what is its primary role? A. Readily Available Memory; it is the first level of memory used by the computer in all of its operations. B. Random Access Memory; it is memory that can be reached by any sub- system within a computer, and at any time. C. Random Access Memory; it is the memory used for short-term temporary data storage within the computer. D. Resettable Automatic Memory; it is memory that can be used and then automatically reset, or cleared, after being read from or written to.	5	CO1
Q 2	Deframentation is the process of A. physically reorganizing the contents of the disk to store the pieces of each file close together and contiguously B. Create extra space in filesystem C. Resizing the filesystem D. None of the mentioned	5	CO1
Q 3	Which of the following protocol has slowest speed? A. SATA B. SAS C. FC-AL D. All of the mentioned	5	CO4
Q 4	Which of the following is true? A. SAS is compatible with SATA physical layer B. SAS is not parallel SCSI C. SAS has multiple channels per port D. All of the mentioned	5	CO4
Q 5	The purpose of backup is: A. To restore a computer to an operational state following a disaster B. To restore small numbers of files after they have been accidentally deleted C. To restore one among many version of the same file for multiple backup environment D. All of the mentioned	5	CO5

Q 6	Which of the following techniques can be used for optimizing backed up data space? A. Encryption and Deduplication B. Compression and Deduplication C. Authentication and Deduplication D. Deduplication only	5	CO5

SECTION B

Q 1	Explain in detail all the key requirements of storage systems.	10	CO1
Q 2	Identify key challenges of Direct Attached Storage (DAS). How to overcome those challenges when business grows rapidly?	10	CO3
Q 3	How to improve data availability in storage system architecture? Discuss in detail.	10	CO4
Q 4	Categorize all the management tasks in storage infrastructure and discuss them in detail.	10	CO5
Q5	Explain the terms SAN and NAS. Discuss in detail all the benefits of SAN and NAS. OR What is zoning? Discuss a scenario, (i) where soft zoning is preferred over hard zoning. (ii) where hard zoning is preferred over soft zoning.	10	CO3

SECTION C

Q1	Discuss software and hardware implementation of RAID. Explain all the levels of RAID. OR Explain the process of data recovery in case of a drive failure in RAID 5. What are the benefits of using RAID 3 in a backup application?	20	CO2