

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION-2022

B.Tech-VII Semester (CSE & IT)

COURSE CODE (CREDITS): 18B1WCI736 (3)

MAX. MARKS: 35

COURSE NAME: STORAGE NETWORKS

COURSE INSTRUCTORS: Dr. P.K. Gupta

MAX. TIME: 2 Hours

Note: All questions are compulsory. Marks are indicated against each question in square.

Q1.

[CO2][CO5] [3+3]

- a) Design a departmental architecture of NAS. Indicate various protocols, file systems, devices used in it. Is it possible to implement a concept of storage virtualization in this architecture? If yes, then show at what level it could be implemented?
b) "Data De-duplication" with an example.

Q2. In an online organization various servers are installed, like proxy, database, Web, backup, file, etc., attached with various intelligent disk subsystems, tape drives. For connectivity purpose HBA, switches and Ethernet topology are being used.

[CO1][CO4] [3+3]

- a. Suggest and implement a cost effective and scalable storage network solution.
b. How would you create the individual domains for each server for security reasons so that the users restrict to their domain only?

Q3. List the various management techniques used to manage the storage networks? How these techniques are found similar with the management techniques used in computer networks? Discuss any one technique that is only used in storage networks.

[CO5] [5]

Q4. Many companies discover that they are not properly insured, only after they have suffered a loss. Lack of appropriate insurance can be financially devastating. List the various topics in discussion with your insurance advisor to determine your individual needs. How would you assess the vulnerability explain with vulnerability chart.

[CO4] [5]

Q5. What are the ^{3 medical} various protocols are available for distributed storage networking? Present a comparative analysis view of these protocols on following parameters: bandwidth, no. of supported device, block size, bit error rate, and max distance.

[CO6] [5]

Q6.

[CO3] [CO6][2+2]

- a) What is storage virtualization? Discuss the SNIA taxonomy for storage virtualization.
b) How the architecture of distributed storage network is different with traditional storage networks? List the various protocols used in DSAN. How these protocols are responsible for communicating with long distance networks?

Q7. Storage subsystems facilitate the management of large number of storage devices by incorporating modular designs for fast servicing and manageability of all components. Prepare a modular enclosure design of a SAN consisting of these components and also list the various servicing functions for your design.

[CO6] [5]