# PRESIDENCY UNIVERSITY
## BENGALURU

## SCHOOL OF ENGINEERING
### END TERM EXAMINATION - JUN 2023

**Semester :** Semester VI - 2020
**Course Code :** CSE2054
**Course Name :** Sem VI - CSE2054 - Storage Area Networks
**Program :** ISI&IST

**Date :** 14-JUN-2023
**Time :** 9.30AM - 12.30PM
**Max Marks :** 100
**Weightage :** 50%

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**Instructions:**
*(i) Read all questions carefully and answer accordingly.*
*(ii) Question paper consists of 3 parts.*
*(iii) Scientific and non-programmable calculator are permitted.*
*(iv) Do not write any information on the question paper other than Roll Number.*

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## PART A

### ANSWER ALL THE QUESTIONS                                   (10 X 2 = 20M)

1. Define Data and Information. List different types of data with an example.

   (CO1) [Knowledge]

2. List the key functions of the RAID controllers.

   (CO2) [Knowledge]

3. Define Block I/O request and Object I/O request.

   (CO3) [Knowledge]

4. What is Remote Replication? List 2 basic modes of remote replication.

   (CO4) [Knowledge]

5. Define the structure of Object.

   (CO3) [Knowledge]

6. list and define the common terms used to represent various entities and operations in a replication environment.

   (CO4) [Knowledge]

7. Define REST and SOAP.

   (CO3) [Knowledge]

8. What is Cache mirroring and Cache vaulting?

   (CO2) [Knowledge]

9. Define the Core Elements of Data Center.

   (CO1) [Knowledge]

10. Define recovery time objective and recovery point objective.

(CO4) [Knowledge]

## PART B

**ANSWER ALL THE QUESTIONS**            **(5 X 10 = 50M)**

11. Explain the key features of CAS.

(CO3) [Comprehension]

12. Illustrate Raid 0 + 1 and Raid 1+0.

(CO2) [Comprehension]

13. Outline Host access to data. Explain direct attached storage in detail.

(CO1) [Comprehension]

14. Demonstrate the three basic topologies used in backup environment with the help of neat diagram.

(CO4) [Comprehension]

15. Summarize backup and recovery considerations. Outline Backup methods with real time example.

(CO4) [Comprehension]

## PART C

**ANSWER ALL THE QUESTIONS**            **(2 X 15 = 30M)**

16. The growth of unstructured data has posed new challenges to the IT administrators and storage managers. Identify and demonstrate the storage solution which can handle the overhead to the NAS in terms of managing large number of permissions and nested directories.

(CO3) [Application]

17. With growing business and regulatory demands for data storage, retention and availability, organizations are faced with the task of backing up an ever-increasing amount of data. This task becomes more challenging with the growth of information, stagnant IT budgets, and less time for taking backups. Moreover, organizations need a quick restore of backed up data to meet business SLAs. Categorize the backup based on granularity and illustrate its restore operations with respect to each category.

(CO4) [Application]