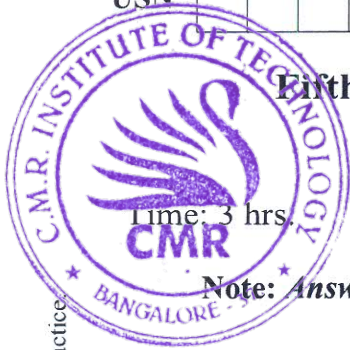


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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and/or equations written eg.  $42+8=50$ , will be treated as malpractice.



## Fifth Semester MCA Degree Examination, Jan./Feb. 2023

### Storage Area Networks

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

#### Module-1

- 1 a. List and explain the core elements of storage system. (10 Marks)  
b. Define data. Explain various types of data. (10 Marks)

OR

- 2 a. Explain various disk drive components. (10 Marks)  
b. Define disk service time. Explain components that contribute to the service time of a disk drive. (10 Marks)

#### Module-2

- 3 Define RAID. Explain various levels of RAID. (20 Marks)

OR

- 4 a. Explain various components of an Intelligent storage system with a neat diagram. (10 Marks)  
b. With a neat diagram explain direct attached storage architecture. (10 Marks)

#### Module-3

- 5 a. Explain FC connectivity types in detail. (10 Marks)  
b. Define Zoning. Explain various types of Zoning. (10 Marks)

OR

- 6 a. Explain Fibre channel protocol stack. (10 Marks)  
b. Explain the benefits of NAS. (10 Marks)

#### Module-4

- 7 a. Explain the components of NAS with a neat diagram. (10 Marks)  
b. Explain iSCSI protocol stack. (10 Marks)

OR

- 8 a. How object storage is done in object based storage devices? (10 Marks)  
b. With a neat diagram, explain the object based storage architecture. (10 Marks)

#### Module-5

- 9 a. Explain the BC planning life cycle. (10 Marks)  
b. Explain the backup and restore operations. (10 Marks)

OR

- 10 a. List and explain the uses of local Replication. (10 Marks)  
b. Explain host based local Replication. (10 Marks)

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