

BE12-R4: INFORMATION STORAGE AND MANAGEMENT

NOTE:

1. Answer question 1 and any FOUR from questions 2 to 7.
2. Parts of the same question should be answered together and in the same sequence.

Time: 3 Hours

Total Marks: 100

1.

- a) What is information? List various challenges for managing information in network.
- b) What is significance of Data Center in information storage?
- c) What is Storage Array? Explain modular Vs monolithic Storage array classification with example.
- d) Explain the following terms:
Seek Time, Data Transfer Rate, Rotational Latency, Zoning.
- e) What are the advantages of fiber channel protocol? Explain protocol stack of it.
- f) Explain term: SAN. What is significance of SAN in any enterprise? List major characteristics of it.
- g) What is Data Proliferation? What problems arise due to Data Proliferation?

(7x4)

2.

- a) What is Storage management? List various skill sets and activities which required performing to handle storage management.
- b) What is intelligent disk sub system? Explain it with its components.
- c) What is Information Lifecycle Management (ILM)? Explain implementation of ILM.

(6+6+6)

3.

- a) What is RAID? What is impact of RAID on disk performance related to IOPS? Explain various RAID Levels in brief.
- b) What is CAS? Describe the CAS Architecture. How to do object storage and retrieval in CAS?

(9+9)

4.

- a) What is Disaster in terms of data and information storage? How it is related to Business Continuity? List various disaster recovery principles and techniques.
- b) List and explain various design criteria and design components of SAN.

(9+9)

5.

- a) What is significance and advantages of NAS in local area network for sharing data?
- b) List various industry standards for managing and monitoring Storage management activities.
- c) Explain how performance of NAS can be affected if the TCP window size at the sender and at the receiver are not synchronized.

(8+4+6)

6.

- a) What is FC protocol? Explain FC protocol stack.
- b) What is SCSI? Explain SCSI command model.
- c) Explain LUN and LUN masking, activities associated with design of SAN.

(6+6+6)

7.

- a) What is difference between general purpose component and NAS device? Explain various components and implementation steps of NAS in detail.
- b) What is core element of Data Center? Explain how failure analysis is done at Data Center and how fault tolerance mechanism implemented.

(9+9)