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) Explain the following terms: Seek Time, Data Transfer Rate
b) How are user files mapped to disk storage?
c) Draw protocol stack for Fiber channel. What are the key advantages of fiber channel protocol?
d) The NFS and CIFS protocols handle file I/O requests to a remote file system, which is managed by the NAS device. What are the processing steps of NSA I/O?
e) What are the differences between software RAID and Hardware RAID?
f) What are the various fiber channel ports on the switch?
g) Which are the factors that increase volumes of digital data?

(7x4)

2.

a) Information lifecycle management (ILM) is a proactive strategy that enables an IT organization to effectively manage the data throughout its lifecycle. What are the characteristics ILM strategies? What are the activities associated with ILM? What are the benefits of using ILM?
b) RAID is used for information availability. What is mechanism in RAID 3? What are the benefits of using RAID 3 in a backup application?

(9+9)

3.

a) Which are the Factors that Affecting NAS Performance and Availability?
b) What is LUN? Why LUN masking is required?
c) What are the Features and Benefits of Content Addressable Storage?

(6+6+6)

4.

a) Which are the core elements of data center infrastructure?
b) Network-attached storage *(NAS)* is an IP-based file-sharing device attached to a local area network. What are the advantages of it?

(9+9)

5.

a) Connectivity refers to the interconnection between hosts or between a host and any other peripheral devices. What are the physical and logical types of connectivity?
b) What are the components of intelligent storage system?

(8+10)

6.

a) Why is RAID 1 not a substitute for a backup?
b) The Fiber Channel (FC) architecture forms the fundamental construct of the SAN infrastructure. How many interconnection options supported by FC?
c) Write down comparisons between RAID 0, 1, 3 & 4.

(3+7+8)

7.

a) What are the Key Requirements for Data Center Elements?
b) What is Fundamental Laws Governing Disk Performance?
c) What are the capabilities of High-end Storage Systems?

(7+5+6)