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 are the types of connectivity of FC (Fiber Channel) to be deployed in SAN (Storage Area Network)?
b)   What is Data Proliferation? What are the problems associated with it?
c)   What are the key design issues of WAFS (Wide Area File Services)?
d)   How does industry manage their IT infrastructure using SNMP (Simple Network Management Protocol)?
e)   How does Information Life Cycle Management help to improve IT management?
f)   Explain the following terms: Seek Time, Data Transfer Rate.
g)   What are the Benefits and Limitations of Direct Attached Storage?

                                                                                                                            (7x4)

2.
a)   The FC standards define different Classes of Service to meet the requirements of a wide range of applications. What are those classes of Services?
b)   How does RAID (Redundant Array of Inexpensive Disks) improves reliability of storage system?
c)   What are the purposes of Metadata Database and Media Manager in SAN?

                                                                                                                            (6+6+6)

3.
a)   Cache is an important component that enhances the I/O performance in an intelligent storage system. How is the cache organized in intelligent storage system to increase the performance?
b)   Write down Evolution of Storage Technology.
c)   How is the design of data center carried out? Write down the phases of design steps.

                                                                                                                            (5+6+7)

4.
a)   What are the elements of SAN (Storage Area Network)? How are they connected with each other?
b)   Access time of data from HDD (Hard Disk Drives) is not uniform because of its mechanical parts. What are the possible ways to increase performance of HDD?

                                                                                                                            (10+8)

5.
a)   Write down the various principles and techniques of Disaster Recovery.
b)   What are the key management metrics available for Storage System?

                                                                                                                            (9+9)

6.
a)   What are the major characteristics of CAS (Content Addressable Storage)?
b)   What are the advantages of having Logical Unit Number?
c)   What are the limitations of Raw Capacity of Bus-Attached Storage?

                                                                                                                            (6+6+6)

7.
a) Write down the differences of various RAID levels with respect to Fault Tolerance, Read & Write Performance and Space Requirements.
b) What are the steps hosting and accessing files stored on NAS (Network Attached Storage)?
c) What is Logical Partitioning of Disks? Write down the benefits of creating logical partition of multiple disks.

(5+6+7)