



Program: BC (CS)
Subject: Computer Architecture
Assignment Number: 06
Course Code: CSC-208
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Semester: Spring 2020

Q.1 Give detail answer to each of the following:

- (a) What are the advantages of using a glass substrate for a magnetic disk?
- (b) Define the terms track, cylinder, and sector.
- (c) Define seek time, rotational delay, access time, and transfer time for magnetic disk.
- (d) Briefly define the seven RAID levels.
- (e) How is redundancy achieved in a RAID system?
- (f) Discuss different optical Disk Products in detail.
- (g) Discuss the CD read and write operation.
- (h) What differences between a CD and a DVD account for the larger capacity of the latter?

Q.2 Write note on each of the following:

- (a) Physical Characteristics of magnetic disk system
- (b) Solid state drives (SSD)
- (c) Parallel access and independent access RAID schemes
- (d) Reasons for DVD's greater capacity over CD
- (e) Solid State Drive Architecture
- (f) Practical Issues peculiar to SSDs

Q.3 Differentiate each of the following:

- (a) Magnetic disk read and write Mechanisms
- (b) CAV system and multiple zoned recording system
- (c) Solid-state drives and hard-disk drives
- (d) CD and DVD
- (e) HD DVD and Blu-ray DVD

- Q.4** Consider a disk with an advertised average seek time of 6 ms, rotation speed of 7,200 rpm, and 512-byte sectors with 500 sectors per track. Suppose that we wish to read a file consisting of 2500 sectors for a total of 1.28 Mbytes. Estimate the total time for the transfer when:
1. The file occupies all the sectors on 5 adjacent tracks
 2. The sectors are distributed randomly over the disk