Assignment on Disk Scheduling Algorithms

Q1. Consider a disk with 200 tracks and the queue has random requests from different processes in the order:
55, 58, 39, 18, 90, 160, 150, 38, 184

Initially arm is at 100.

Find the Average Seek length using FCFS, SSTF, SCAN and C-SCAN, LOOK and C-LOOK algorithm.

Q2. Suppose a disk has 201 cylinders, numbered from 0 to 200. At some time the disk arm is at cylinder 100, and there is a queue of disk access requests for cylinders 30, 85, 90, 100, 105, 110, 135, and 145. If Shortest-Seek Time First (SSTF) is being used for scheduling the disk access, the request for cylinder 90 is serviced after servicing _____ the number of requests.
(A)1
(B)2
(C)3
(D)4

Q3. The head of a moving disk with 100 tracks numbered 0 to 99 is serving a request at track 'x', if the requests of track 25, 76, 43,10,67 are served using fifo algo. Then head movements are 194 the track 'x' initially served was.?
Note: FCFS is also known as FIFO

Q4. Suppose the following disk request sequence (track numbers) for a disk with 100 tracks is given: 45, 20, 90, 10, 50, 60, 80, 25, 70. Assume that the initial position of the R/W head is on track 50. The additional distance that will be traversed by the R/W head when the Shortest Seek Time First (SSTF) algorithm is used compared to the SCAN (Elevator) algorithm (assuming that SCAN algorithm moves towards 100 when it starts execution) is _____ tracks

(A) 8

(B) 9

(C) 10

(D) 11