

Q1)

Total no. of tracks = 200

Initially arm is at 100

Work Queue = 55, 58, 39, 18, 90, 160, 150, 38, 184

FIFO :

Next Request	55	58	39	18	90	160	150	38	184
Travel	45	3	19	21	72	70	10	112	146

Total seek length = 498Avg seek length = $\frac{498}{9} =$ 55.3SSTF :

Next Request	90	58	55	39	38	18	150	160	184
Travel	10	32	3	16	1	20	132	10	24

Total seek length = $\boxed{248}$

Average seek length = $\frac{248}{9} = \boxed{27.555}$

SCAN :

Next Request	150	160	184	199	90	58	55	39	38	18
Travel	50	10	24	15	109	32	3	16	1	20

Total seek length = $\boxed{280}$

Avg. seek length = $\boxed{31.11}$

C-SCAN :

Next Request	150	160	184	199	0	18	38	39	55	58	90
Travel	50	10	24	15	199	18	20	1	16	3	32

Total seek length = $\boxed{388}$

Avg. seek length = $\frac{388}{9} = \boxed{43.11}$

2)

Given,

Total no. of cylinders = 200

Initially, head is at 53

Work queue = 98, 183, 41, 122, 14, 124, 65, 67

LOOK:

Next Request	65	67	98	122	124	183	41	14
Travel	12	2	31	24	2	59	142	27

Total seek length = 299C-LOOK:

Next Request	65	67	98	122	124	183	14	41
Travel	12	2	31	24	2	59	169	27

Total seek length = 326

SCAN:

Next Request	65	67	98	122	124	183	199	41	14
Travel	12	2	31	24	2	59	16	158	27

Total seek length = 331

C-SCAN:

Next Request	65	67	98	122	124	189	199	0	14	41
Travel	12	2	31	24	2	59	16	199	14	27

Total seek length = 386