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Assignment 5

Task 1

1.1)B

1.2)D

1.3)B

1.4)B

1.5)B

Task 2

2.1)

Scheduling process

Job List	1	2	3	4	5	Elapsed time
	A	B	C	D	E	5
	A	B	C	D	E	10
	A	B	C	D	E	15
	A	B	C	D	E	20
	A	B	C	D	E	25
	A	B		D	E	29
	A	B		D	E	33
	A	B			E	36
	A	B			E	39
	A	B			E	42
	A	B			E	45
	A				E	47
					E	48

Turnaround time

A = 46min

B = 44min

C = 23min

D = 32min

E = 48min

Average turnaround time = $(46 + 44 + 23 + 32 + 48)/5$

= 38.6min

2.2)

Scheduling process

Priority (Highest to lowest)	Job	Job time	Turnaround time
3	E	13	13
4	B	11	$13 + 11 = 24$
6	A	12	$24 + 12 = 36$
7	C	5	$36 + 5 = 41$
9	D	7	$41 + 7 = 48$

Average turnaround time

= $(13 + 24 + 36 + 41 + 48)/5 = 32.4\text{min}$

2.3)

Scheduling process

Job	Time needed	Turnaround time
A	12	12
B	11	$12 + 11 = 23$
C	5	$23 + 5 = 28$
D	7	$28 + 7 = 35$
E	13	$35 + 13 = 48$

Average turnaround time = $(12 + 23 + 28 + 35 + 48)/5 = 29.2\text{min}$

2.4)

Scheduling process

Job	Time needed	Turnaround time
C	5	5
D	7	$5 + 7 = 12$
B	11	$12 + 11 = 23$
A	12	$23 + 12 = 35$
E	13	$35 + 13 = 48$

Average turnaround time = $(5 + 12 + 23 + 35 + 48) / 5 = 24.6\text{min}$

Task 3

3.1)

- Time taken for One revolution = $(60 * 1000) / 8500$
= 7.06ms
- maximum rotational delay = $(1 / 8500) * 60$
= 0.007s
- Average rotational delay =

Task 4

4.1) First in First Out (FIFO)

The request is carried out in order.

Starting from 1167

1167 then 1000 then 740 then 1152 then 942 then 1200 then 1850 then 1145 then 553 then 1777 then 1697 finish

Tracks Travelled

(1167 - 1000) =	167
(1000 - 740) =	260
(1152 - 740) =	412
(1152 - 942) =	210
(1200 - 942) =	258
(1850 - 1200) =	650
(1850 - 1145) =	705
(1145 - 553) =	592
(1777 - 553) =	1224
(1777 - 1697) =	80
Total	4558 Tracks

4.2) Shortest Service Time First (SSTF)

The tracks are ordered based on how close they are to each other

1167 then 1152 then 1145 then 1200 then 1000 then 942 then 740 then 553 then 1697 then 1777 then 1850

(1167-1152) =	15
(1152-1145) =	7
(1145-1200) =	55

(1200-1000) =	200
(1000-942) =	58
(942-740) =	202
(740-553) =	187
(1697-553) =	1144
(1777-1697) =	80
(1850-1777) =	73
Total	2021 Tracks

4.3) SCAN (without look variation)

4.4) C SCAN (without c look variation)