

Họ và tên: Trần Vũ Tiến Minh

MISV: B23DCCE067

Lớp D23CQC04-B

Môn: Hệ điều hành

Bài Question 4 & 5 Chapter 3

Question 4:

4 2 3 4 2 1 5 6 2 1 2 3 -

OPT

OPT	1	2	3	4	2	1	5	6	2	1	2	3	7	6	3	2	1	2	3	6
	1	1	1	1	1	1	1	1	1	1	1	1	3	3	3	3	3	3	3	6
	2	2	2	2	2	2	2	2	2	2	2	2	7	7	7	7	2	2	2	2
	3	4	4	4	5	6	6	6	6	6	6	6	6	6	6	6	1	1	1	1

\Rightarrow Page missing events = 8 11

FIFO	1	2	3	4	2	1	5	6	2	1	2	3	7	6	3	2	1	2	3	6
	1	1	1	4	4	4	6	6	6	6	3	3	3	3	2	2	2	2	6	
	2	2	2	2	1	1	1	2	2	2	2	7	7	7	7	1	1	1	1	
	3	3	3	3	5	5	5	1	1	1	1	6	6	6	6	6	3	3	3	

\Rightarrow Page missing events = 18 16

LRU	1	2	3	4	2	1	5	6	2	1	2	3	7	6	3	2	1	2	3	6
	1	1	1	4	4	4	5	5	5	1	1	1	7	7	7	2	2	2	2	2
	2	2	2	2	2	2	2	6	6	6	6	3	3	3	3	3	3	3	3	
	3	3	3	3	1	1	1	2	2	2	2	6	6	6	6	1	1	1	6	

\Rightarrow PMV = 18 15

HAI TIEN

Question 5 OPT

Date: . . No:

1	2	3	4	5	3	4	1	6	7	8	7	8	9	7	8	9	5
1	1	1	1	1	1	1	1	6	7	7	7	7	7	7	7	7	7
2	2	2	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
3	3	3	3	3	3	3	3	3	3	8	8	8	8	8	8	8	8
4	4	4	4	4	4	4	4	4	4	4	4	4	9	9	9	9	9
	F				F	F	F			F							

FIFO

1	2	3	4	5	3	4	1	6	7	8	7	8	9	7	8	9	5
1	1	1	1	5	5	5	5	5	5	8	8	8	8	8	8	8	8
	2	2	2	2	2	2	1	1	1	1	1	1	9	9	9	9	9
	3	3	3	3	3	3	3	6	6	6	6	6	6	6	6	6	5
	4	4	4	4	4	4	4	4	7	7	7	7	7	7	7	7	7
	F				F	F	F	F					F				

LRU

1	2	3	4	5	3	4	1	6	7	8	7	8	9	7	8	9	5
1	1	1	1	5	5	5	6	6	6	6	6	6	6	6	6	6	5
2	2	2	2	2	2	1	1	1	1	1	1	1	9	9	9	9	1
3	3	3	3	3	3	3	7	7	7	7	7	7	7	7	7	7	7
4	4	4	4	4	4	4	4	4	8	8	8	8	8	8	8	8	8
	F			F	F	F	F			F			F				

Question 5: Clock:

1	2	3	4	5	3	4	1	6	7	8	7	8	9	7	8	9	5
1*	1*	1*	1*	5*	5*	5*	5*	5→5	8*	8*	8*	8*	8*	8*	8*	8*	8
2*	2*	2*	2*	2→2	2→2	1*	1	1→1	1→1	1→1	9*	9*	9*	9*	9*	9*	9
3*	3*	3*	3	3*	3*	3*	3*	6*	6*	6*	6*	6*	6*	6*	6*	6*	5*
4*	4	4	4*	4*	4*	4	7*	7*	7*	7*	7*	7*	7*	7*	7*	7*	7
F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	

Question 4: Clock

1	2	3	4	2	1	5	6	2	1	2	3	7	6	3	2	1	2	3	6
1*	1*	1*	4*	4*	4	4	6*	6*	6	6	3→3*	3	3→3	3	1*	1*	1*	1*	1
2*	2*	2*	2	2*	2	5*	5*	5	5	1*	1*	1*	1	6*	6*	6→6	6	3*	3
3*	3	3	3	1*	1*	1	2*	2*	2*	2	7*	7*	7*	7*	2*	2*	2*	2*	6*
F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	

$$\Rightarrow PMEs = 16$$