

2019-makaut paper

1(i)

Process	Allocated	Available	Max	Need
P <sub>1</sub>	2	1	3	1
P <sub>2</sub>	1		3	2
P <sub>3</sub>	1		3	2
P <sub>4</sub>	1		3	2
P <sub>5</sub>	1		3	2
P <sub>6</sub>	1		3	2
P <sub>7</sub>	1		3	2

$8 + 1 = 9$

I guess answer is (b)

If suppose every process is allocated the (max-1) resources then except 1 process all 4 others will need just 1 process to get terminated.

But the question says to find maximum value for n

If all the processes are given only one resource except one process which is given 2 then upon getting 1 extra, it will go to termination, releasing 3, thus deadlock free.

$$m \geq \sum_{i=1}^n a_i - n + 1$$

$\downarrow$  available       $\downarrow$  no. of processes  
 process

1(ii)

WT  
12  
30  
0  
14  
7

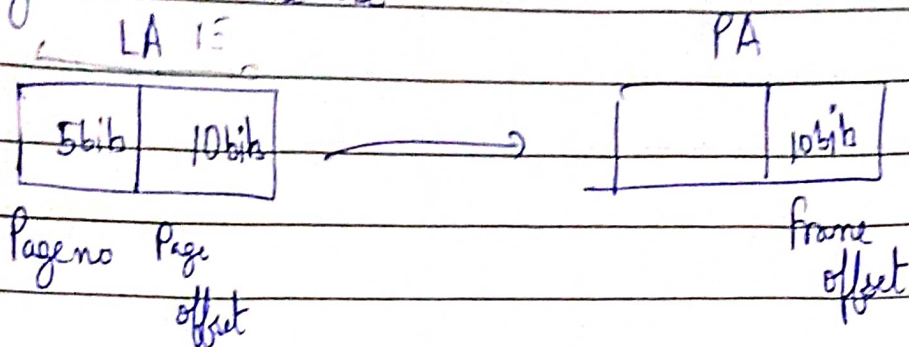
$$\frac{53}{5} = 10.6 \text{ ms}$$

(d)

- 1 (iii) (a)
- 1 (iv) (c)
- 1 (v) (a) Aging
- 1 (vi) (c) FIFO
- 1 (vii) (c)

$$\begin{aligned}
 1 \text{ (viii)} \quad 32 \text{ kb} &= 32 \times 1024 \text{ bytes} \\
 &= 2^5 \times 2^{10} \\
 &= 2^{15} \text{ bytes} \\
 2048 \text{ bytes} &= 2^{11} \text{ bytes}
 \end{aligned}$$

Page size = Frame size



Where is the PA bits?

(1x) (c)

(x) (c)

(x<sup>0</sup>) (a)

(x<sup>00</sup>) (b) RR