Topic...................

Name : Sreyas Ptat Keri

ID : 2015A7PS1159P

1)

Page Dir | PT | Offset

16 bit | 16 bit | 16 bit

x16

PDBR

$\times 2^{16}$

$\times 2^{16}$ Page Dir

PBR $\times 2^{16}$

PT

$\times 16$

Page Table

Page Frame

c) Max # of pages = 2^{29}

Max # of PT = 2^{12}

$PT = 2^{12}$

d) Max #f = 2^{12}

e) 796 KB = 8,06,464

page size 7 frames + 2

= 9 frames

Name: Shreyas Bhat Kera
ID : 2018A7PS1119P

∴ state is safe with safe request

<P3, P4, P1, P2, P5>

5) Original available
   30   130
   for safe sequence P) must start
   ∴ lowest initial available
   =   to 110

which is only possible if P1 (x, 99, d)
if x = 2, Y = 2

with safe sequence <P3, P4, P1, P2, P5>

Q2.

a) Max virtual space = 1TB = 2^{40} B
   Page size = 2^{16} B
   Page entry = 16 B
   # of pages = $\frac{2^{40}}{2^{16}}$ = 2^{24} pages

   # of page table entries = ?

   $\frac{64k}{16}$ = 2^{12} entries

   ⇒ $\frac{2^{24}}{2^{12}}$ ⇒ 2 levels required

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Q1. Total

R1	R2	R3	R4	R5
10	10	8	7	8

Allocated = Max – Need

R1 R2 R3 R4 R5

P1	2	1	2	0	0
P2	2	3	1	0	1
P3	0	1	1	2	2
P4	1	0	0	1	3
P5	2	3	3	2	2
Total	7	10	7	5	8

Available

3 0 1 2 0

1st. P3
new available
3 1 2 5 2

2nd P4
4 1 2 6 5 — new avaible

3rd P1
6 4 4 6 5 — new available

4th P2
8 7 5 6 6 — new available

5th P5
10 10 7 8 8 = total