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Page No.

Date :

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Sol<sup>n</sup> 7

(a) 2378

Page Size = 1 KB = 1024 bits

Divide LA with page size and the quotient will become page no. and remainder will become offset. Page no. is starting from 0.

2378

1024

→ Page Number = 2

→ Offset = 330

1024  $\overline{) 2378}$

- 2048

330

(b) 19360

19360

1024

→ Page Number = 18

→ Offset = 928

1024  $\overline{) 19360}$

- 1024

9120

- 8192

928



Q<sup>n</sup> (2) Page Size =  $4 \text{ KB} = 4 \times 2^{10}$   
 $= 2^{12}$

Offset = 12 bits

(a) Virtual Address = 32 bits  
 Bits need to address page =  $32 - 12$   
 $= \underline{\underline{20 \text{ bits}}}$

(b) Physical address = 64 bits  
 Bits need to address frame =  
 $64 - 12$   
 $= \underline{\underline{52 \text{ bits}}}$

(c) Size of physical address space =  
 Offset =  $\underline{\underline{12 \text{ bits}}}$

(d) Size of virtual <sup>address</sup> space = Offset  
 $= \underline{\underline{12 \text{ bits}}}$

sol<sup>n</sup> (11)Output of a, b, c, d :-

$$a = 10$$

$$b = 1055$$

$$c = 0$$

$$d = 1055$$

working :-

$\text{fork}() = 0$ , that means it is the child process. So  $a = a + 5$  [ $a = 5$ ] so final  $a = 10$ .  $\text{getppid}()$  gives the id of parent which is 1055, so  $b = 1055$ .

else loop is for parent process. So for this also  $a = 5$ , now  $c = a - 5$ , so  $c = 0$ .  $\text{getpid}()$  gives the id of the current process i.e., parent here. So  $d = 1055$ .