Total No. of Questions : 6]

SEAT No. : 44

P41

[Total No. of Pages : 2

Oct.-16/T.E./Insem.-41
T.E. (Computer) (Semester - I)
OPERATING SYSTEM DESIGNS
(2012 Pattern)

Time : 1 Hour]   [Max. Marks : 30

Instructions to the candidates:

1) Answer Q1 or Q2, Q3 or Q4, Q5 or Q6.
2) Neat diagrams must be drawn wherever necessary.
3) Figures to the right side indicate full marks.
4) Assume suitable data if necessary.

Q1) a) Explain with neat diagram the importance of buffer cache. [5]
  b) Explain getblock () algorithm. [5]

OR

Q2) a) Explain structure of regular files in UNIX System V. [4]
  b) Explain namei algorithm. [4]
  c) Write a short note on Super Block. [2]

Q3) a) Draw and Explain Process State transition Diagram. [6]
  b) Explain context of a process. [4]

OR

Q4) a) Solve the following by Banker's Algorithm [6]

	Allocation Matrix	Max Claim Matrix	Total Resources
	A B C D	A B C D	A B C D
P0	0 1 1 0	0 2 1 0	3 17 16 12
P1	1 2 3 1	1 6 5 2	
P2	13 6 5	2 3 6 6	
P3	0 6 3 2	0 6 5 2	
P4	0 0 1 4	0 6 5 6	

• Create the need matrix.
• Use the safety algorithm to test if the system is in a safe state.
  b) Explain fork () system call. [4]

Q5) a) What is swapping? How allocation and freeing of swap space is done. [5]
  b) Explain buddy system with example. [5]

OR

Q6) a) Explain Translation Lookaside Buffer. [5]
  b) Explain in brief what is paging and segmentation? How Logical-to-Physical Address Translation is done in both? [5]

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