P41

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	1 3 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]**

P.T.O.

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]**

❧❧❧