Total No. of Questions : 6] SEAT No. :

P4881

[Total No. of Pages : 2

TE/Insem. - 147
T.E. (Computer Engineering)
OPERATING SYSTEMS DESIGN
(2012 Pattern) (Semester - I)

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) What do you understand by free space management? Explain its different approaches. **[6]**

b) Explain booting process in detail. **[4]**

OR

Q2) a) Explain algorithm bread( ) and bwrite( ) **[6]**

b) Explain with neat diagram buffer header. **[4]**

Q3) a) Explain with diagram saving context of process. **[4]**

b) Compare and contrast various approaches for Deadlock handling. **[4]**

c) What is thread? **[2]**

OR

Q4) a) What is a process? Explain five state process model with diagram. **[5]**

b) With given matrices, determine safe state with the help of banker algorithm. **[5]**

Claim Matrix C

	R1	R2	R3
P1	3	2	2
P2	6	1	3
P3	3	1	4
P4	4	2	2

Allocation Matrix A

	R1	R2	R3
P1	1	0	0
P2	6	1	2
P3	2	1	1
P4	0	0	2

Resource Vector R

R1	R2	R3
9	3	6

Available Vector V: R1-0 R2-1, R3-1

P.T.O.

Q5) a) Write short note on Thrashing. **[2]**

b) Explain with example any two page replacement algorithms – FIFO, Optimal, LRU. Page address stream {2,3,2,1,5,2,4,5,3,2,5,2}, frame size –3. Identify the page faults occurred. **[8]**

OR

Q6) a) Why is the principle of locality crucial to the use of virtual memory? Explain with example. **[4]**

b) What is TLB? Explain operation of TLB with neat diagram. **[6]**