Total No. of Questions : 6]

SEAT No. :

P3700

[Total No. of Pages : 2

Engg. - 47

T.E. (Computer) (Semester - I)

OPERATING SYSETMS DESIGN

(2012 Pattern) (In Sem.)

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 indicate full marks.***
4) ***Assume Suitable data if necessary.***

Unit - I

Q1) a) Explain with neat diagram UNIX system architecture. **[6]**

b) Write short note on Master Boot Record (MBR). **[4]**

OR

Q2) a) State the advantages and disadvantages of buffer cache. **[6]**

b) What are system calls? Explain 1) fork( ) 2) open( ) 3) read( ) **[4]**

Unit - II

Q3) a) What is deadlock? What are the necessary conditions for deadlock to occur? **[6]**

b) Differentiate process and thread. **[4]**

OR

Q4) a) What is a process? Explain data structures for process. **[4]**

b) With given matrices explain how banker algorithm helps to determine safe state. **[6]**

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.

Unit - III

Q5) a) Explain with diagram address translation in paging and segmentation system. **[8]**

b) Define memory management in operating system. **[2]**

OR

Q6) a) What is the difference between internal and external fragmentation. **[8]**

b) Explain thrashing **[2]**

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