W-1007

Total No. of Pages : 2

Seat No.	

T.E. (CSE) (Part - I) (Semester - V) (Revised) (New) Examination, June - 2014
OPERATING SYSTEM -I
Sub. Code :45603

Day and Date : Saturday, 07 - 06 - 2014 **Total Marks : 100**
Time : 2.30 p.m. to 5.30 p.m.

Instructions :
1) **Q. No. 1 & Q. No. 5 are compulsory.**
2) **Attempt any two from Q. No. 2, 3 & 4 & any two from Q. No. 6, 7 & 8.**
3) **Assume suitable data wherever necessary.**

SECTION-I

Q1) a) What are the different types of system calls? Give examples from each category of system calls. [8]

b) Explain the following types of Operating systems: [10]

i) Multiprocessor systems

ii) Desktop systems

Q2) a) What are the different states in which a process can reside? Explain PCB. [8]

b) With the help of a diagram describe how the CPU swithces between processes. [8]

Q3) a) Describe the Direct & Indirect communication involved in interprocess communication. [8]

b) What are the benefits of threads? Explain different multithreading models. [8]

Q4) a) Comment on - "Scheduling can be pre-emptive on Non-preemptive". [8]

b) What criterias have been suggested for comparing CPU scheduling algorithms. [8]

P.T.O.

SECTION-II

Q5) a) What is Race Condition? Explain it using a producer-Consumer example. [10]

b) Explain how one can achieve mutual exclusion implementation with Test And set & swap. [8]

Q6) a) What is a safe state? With the help of an example explain how a system can enter into an unsafe state. [8]

b) Write an algorithm to detect a deadlock with several instances of a Resource type. [8]

Q7) a) Explain Recovery of the deadlock using process Termination. [8]

b) With regard to address binding explain- [8]

i) Compile time

ii) Load time

iii) Execution time

Q8) a) Distinguish between Logical & Physical Address space. [8]

b) What are Overlays? How they are useful in memory management? [8]

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