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B.E / B.Tech (Full Time) DEGREE ARREAR END SEMESTER EXAMINATIONS, Nov / Dec 2013

COMPUTER SCIENCE AND ENGINEERING

9

Semester IV

CS 9252 – Operating Systems

(Regulation 2008)

Time : 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. Write a pseudo-code to overcome the Producer-Consumer problem during an Inter Process Communication?
2. What is Busy Waiting? Why is it not appropriate for uniprocessor System?
3. What are the various types of Process control system calls?
4. How is the concept of modularizing the kernel implemented in your PC?
5. What is a CPU Scheduler?
6. Define binary semaphores.
7. Describe the actions taken by a thread library to context switch between user-level threads.
8. Describe the differences among short-term, medium-term, and long term Scheduling.
9. What is shared page?
10. What is demand paging?

Part – B (5 x 16 = 80 marks)

11. (i) Explain the various process states? (8)
(ii) Explain about RPC in client server communication. (8)
12. a) Explain the multithread models in threads and discuss the various issues in threads. (16)

OR

b) Explain any three scheduling algorithms for three processes namely P1, P2, P3 with their burst time(in sec) as 24, 3, 3 respectively. Evaluate their average waiting time and justify which algorithm is efficient for the system. (16)
13. a) Explain about deadlock prevention and recovery mechanisms. (16)

OR

b) List the basic requirements to solve critical section problem and explain using two-process and multi-process solutions. (16)
14. a) Write short notes about virtual memory management and thrashing. (16)

OR

- b) Explain optimal, LRU, LRU approximation page replacement for the reference string

7 0 1 2 0 3 0 4 2 3 0 3 2 1 2 0 1 7 0 1 (16)

15. a) Explain the various disk scheduling algorithm for the disk queue with requests to blocks on cylinders 98, 183, 37, 122, 14, 124, 65, 67. (16)

OR

- b) Explain the various features of process management in Linux system. (16)