ANNA UNIVERSITY COIMBATORE

B.E. / B.TECH. DEGREE EXAMINATIONS : MAY / JUNE 2010

REGULATIONS : 2007

FOURTH SEMESTER

070230013 - OPERATING SYSTEMS

(COMMON TO CSE / IT)

TIME : 3 Hours Max.Marks : 100

PART – A

(20 x 2 = 40 MARKS)

ANSWER ALL QUESTIONS

1. What are the advantages of multiprocessor systems?
2. Distinguish between tightly coupled system and loosely coupled system.
3. What is a context switch?
4. What is a process?
5. Define a thread. What are the advantages of threads?
6. What is meant by dispatcher? What are the functions involved in it.
7. Define response time.
8. Define semaphore.
9. List the four conditions for deadlock.
10. List any three file types with their extensions.
11. What is Belady's anomaly?
12. What is the use of relocatable code?
13. What is the purpose of open operation?
14. List the characteristics of I/O devices
15. Define Polling.
16. Name any three disk scheduling algorithm.
17. Differentiate paging and segmentation.

18. What is meant by thrashing
19. What are the various ways of implementing directory?
20. Define swapping.

PART – B

(5 x 12 = 60 MARKS)

ANSWER ANY FIVE QUESTIONS

21. Discuss briefly the various issues involved in implementing interprocess communication(IPC) in message passing system

22. Discuss the critical section problem, solving the Dining philosophers problem using semaphores

23. Explain in detail the concept of deadlock, deadlock detection, avoidance and recovery from deadlock

24. Explain the difference between external and internal fragmentation. How to solve the fragmentation problem using paging.

25. a) Explain in detail about the various system calls 8

    b) Write short notes on real time systems 4

26. Briefly explain the Disk management and space management

27. a) Give relevant examples and discuss situations under which the most frequently used page replacement algorithm generates fewer page faults than the least recently used page replacement algorithm. Also give an example and discuss under what circumstances does the opposite hold. 9

27. b) List the various methods for implementing the directory 3

28. Explain the various file allocation methods and discuss advantages and disadvantages in those schemes.

*****THE END*****