Register Number………………………

B.E. DEGREE EXAMINATIONS: APRIL / MAY 2010

Fourth Semester

COMPUTER SCIENCE AND ENGINEERING

U07CS403: Operating Systems

Time: Three Hours   **Maximum Marks: 100**

Answer ALL the Questions:-

PART A (10 x 1 = 10 Marks)

1. Protection in single user environment is given by using

   a. Boundary registers   b. Processor   c. I/O device   d. Main memory and I/O device

2. Paged segmentation is used in

   a. Memory Management   b. File management   c. Both 1 and 2   d. Processor scheduling

3. CPU scheduling be required for

   a. Improving speed of DMA   b. To improve throughput and efficiency

   c. Enhance the I/O processor   d. Supporing associate processor

4. Demand Paged allocation scheme is required for

   a. Segmented memory allocation   b. Code is bought into main memory

   c. Single contiguous allocation   d. Fragmentation

5. Dynamic address translation is used for

   a. Identifying a File   b. Identifying a terminal

   c. Identifying a super block   d. conversion of virtual to physical address

6. Once the CPU is allocated for process, the process keeps the CPU until it releases it is called as

   a. non-preemptive scheduling   b. preemptive scheduling

   c. Round robin scheduling   d. LRU

7. Two or more process unknowingly waiting for the same resource

   a. Sleep and wake up   b. Semaphore   c. mounting   d. Dead lock

8. fork system call is used for

   a. Creating mount point   b. linking devices   c. making process   d. Redirecting files

9. If the memory contains many small scattered holes. then suitable dynamic allocation strategy is

   a. First fit   b. Best fit   c. Worst fit   d. paging with offset

10. Kernel is a

   a. Command interpreter   b. UNIX operating system includes the system calls

   c. a file which stores device related information d. Inter Process Communication Mechanism

PART B (10 x 2 = 20 Marks)

11. What is multiprogramming?

12. Define interrupt.

13. What is non-preemptive scheduling?

14. What is monitor?

15. What is swapping?

16. Specify the drawbacks of compaction.

17. What is translation look aside buffer?

18. Distinguish between external security and internal security.

19. List out various file organization methods.

20. Why do we need semaphore?

PART C (5 x 14 = 70 Marks)

21. a) i) Explain real time system with example. (7)

    ii) Discuss about CPU protection (7)

(OR)

  b) i) Define socket. Explain (7)

    ii) What is IPC? Explain (7)

22. a) What is a thread? Explain its models.

(OR)

  b) Explain priority scheduling and SJF scheduling.

23. a) Explain synchronization with respect to readers - writers problem.

(OR)

  b) Explain segmentation and swapping with example.

24. a) Explain FIFO and LRU page replacement algorithm.

(OR)

  b) Explain about single level directory, two level directory and three level directory.

25. a) Explain the structure of NFS.

(OR)

  b) i) Explain about polling and its algorithm. (7)

    ii) Compare blocking and non blocking I/O. (7)

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