A – 6442

(Pages : 2)

Reg. No. : .....

Name : .....

Fifth Semester B.Tech. Degree Examination, October 2016
(2008 Scheme)
08.505 : OPERATING SYSTEMS (F)

Time : 3 Hours Max. Marks : 100

PART – A

Answer **all** questions : **(10×4=40 Marks)**

1. What is Operating System ? Explain the concept of time sharing.
2. State uses of system calls. How does it differ from ordinary function calls ?
3. Describe how indexed sequential access method outperforms sequential access method.
4. Explain structure of a page table. What kind of memory accessing technique is used in page tables ?
5. When one process is executing its critical section, no other processes are allowed to enter into their critical section. Why ?
6. Explain the difference between logical address space and physical address space.
7. What is the significance of TLB in paging ?
8. What is Belady's anomaly ?
9. Can process recover from deadlock by rollback ? Explain.
10. How does Banker's algorithm check whether a state is safe ?

PART – B

Answer **any one** question from **each** Module :

Module – I

11. a) Briefly write about file attributes, file operations and file types. **8**

    b) Explain Spooling technique with a neat diagram. Show how Spooling improves CPU utilization. **12**

OR

12. a) Write different types of operating system structures. Explain Multi programming and Time sharing systems with suitable diagram. **14**

    b) Describe the differences between symmetric and asymmetric multiprocessing systems. **6**

Module – II

13. a) Explain the differences in degrees to which the following CPU scheduling algorithms discriminate in favour of short processes.

    i) FCFS

    ii) Round Robin

    iii) SJFS. **15**

    b) Write a short note on demand paging. **5**

OR

14. a) Why is segmentation and paging sometimes combined into one scheme ? **6**

    b) Given five memory partitions of 100 KB, 500 KB, 200 KB, 300 KB and 600 KB (in order). How would First-Fit, Best-Fit, Worst-Fit strategies place the processes of size 212 KB, 417 KB, 112 KB, and 426 KB (in order) ? Which algorithm makes most efficient use of memory ? **14**

Module – III

15. a) How is deadlock prevention done ? Explain various methods used for deadlock prevention. **10**

    b) Distinguish between access control matrix and access control list. Give examples for use of each one. **10**

OR

16. Suppose a disk has 5000 cylinders numbered from 0 to 4999. The disk is currently serving request at cylinder 143 and previous request was at cylinder 125. The queue of pending request in FIFO order is 86,1470, 913, 1774, 948, 1509, 1022, 1750, 130. Starting from the current head position, what is the total distance (in cylinders) the disk arm moves to satisfy all the pending request in each of the following disk scheduling algorithms ?

    i) FCFS ii) SSTF iii) SCAN iv) LOOK **20**