



Reg. No. : .....

Name : .....

**Seventh Semester B.Tech. Degree Examination, May 2013  
(2008 Scheme)**

**08.704.3 : MODERN OPERATING SYSTEMS (E)**

Time : 3 Hours

Max. Marks : 100



**(10×4=40 Marks)**

Answer **all** questions.

1. Discuss the various system calls associated with process management.
2. What are the different operation that can be performed on a semaphore ?
3. Why is it important for the schedules to distinguish I/O bound program from CPU bound program ?
4. Differentiate multilevel queue scheduling and multilevel feedback queue scheduling.
5. How is TLB different from hardware cache memory used to hold instruction /data ?
6. How does the working set model handles thrashing ?
7. How is logical to physical address mapping done in paging ?
8. What are the principles that could be employed to improve I/O software ?
9. What are the various approaches for ensuring protection on files.
10. What are the function that decide the selection of a disk scheduling algorithm ?



## PART – B

## Module – I

11. a) What are the different ways of handling deadlock ? Explain. 10  
 b) Compare the operation of semaphore and mutex in handling critical section problem. 10

OR

12. Discuss about the different components of an OS. 20

## Module – II

13. a) What kind of fragmentation (external/internal) do the following memory management schema have ? In each case justify your answer. 10  
 i) Paging  
 ii) Segmentation with first fit, best fit.  
 iii) Paged segmentation. 10  
 b) Explain the various page replacement algorithm. 10

OR

14. a) What is the difference between global and local page replacement strategies. State the advantage of each strategy over the other. 10  
 b) What is address binding ? Discuss the following address binding scheme. 10  
 a) Compile line binding  
 b) Load line binding  
 c) Run line binding. 10

## Module – III

15. a) Describe the different levels of RAID. 10  
 b) What is a device drives ? Why are device drives used in a operating system ? How does the operating system access the device driver ? 10

OR

16. a) What are different directory structure ? Explain. 10  
 b) Explain the different file allocation method. 10