



Reg. No. : .....

Name : .....

**Fourth Semester B.Tech. Degree Examination, April/May 2012  
(2008 Scheme)**

**Branch : COMPUTER SCIENCE  
08.406 : Operating Systems (R)**

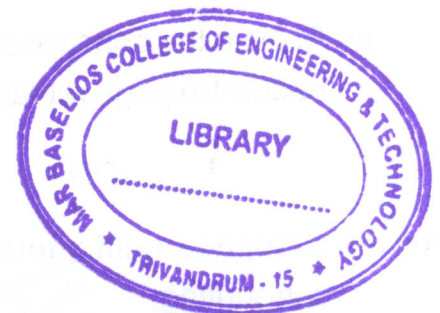
Time : 3 Hours

Max. Marks : 100

**Instruction : Answer all questions.**

**PART – A**

1. What are the main purpose of an operating system ?
2. Compare symmetric multiprocessing and asymmetric multiprocessing.
3. With an example explain sequential file access and random file access.
4. List and explain any four reason for process termination.
5. Compare long term scheduling and short term scheduling.
6. Define P and V operations on semaphores. Also explain Bounded-Buffer problem.
7. Consider a logical address space of eight pages of 1024 word each, mapped onto a physical memory of 32 frames.
  - a) How many bits are there in the logical address ?
  - b) How many bits are there in the physical address ?
8. Explain shortest seek time first algorithm.
9. Explain different data structure in Banker's algorithm.
10. What are two advantages of encrypting data stored in the computer systems ?



**(10×4=40 Marks)**

P.T.O.



## PART – B

Answer **any one full** question from each Module.

## Module – I

11. a) What are the major activities of an operating system in regard to secondary storage ? 5
- b) What is the main difficulty that a programmer must overcome in writing an operating system for a real time environment ? 5
- c) Write short notes on :
- i) Contiguous Allocation ii) File mounting. 10

OR

12. a) List out the different operation that can be performed by a file system. 5
- b) Explain with a simple program to execute a system call. 5
- c) List out the services provided by an operating system. Explain how each provides convenience to the user. 10

## Module – II

13. a) Explain monitor with an example. 5
- b) Explain the concept of virtual memory, page replacement ? Why dirty bit is needed in page replacement ? What is Belady's anomaly ? 15

OR

14. a) Compare multi queue scheduling and multi level feedback queue scheduling. 5
- b) Describe the advantage and disadvantage of segmented memory management. 15



**Module – III**

15. a) Explain the various method for protection and access control. 10
- b) Explain different characteristics of dead lock. How can we prevent a dead lock ? 10

OR

16. Write short notes on :

- i) Domain structure
- ii) Spooling
- iii) Safe state
- iv) IPC.

20

