

# SATHYABAMA UNIVERSITY

(Established under section 3 of UGC Act, 1956)

Course & Branch: B.Tech – IT

Title of the paper: Operating Systems

Semester: IV

Sub.Code: 6C0063

Date: 03-11-2008

Max. Marks: 80

Time: 3 Hours

Session: AN

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## PART – A

(10 x 2 = 20)

Answer All the Questions

1. How do multiprocessor systems ensure improved reliability?
2. Mention any 2 main purposes of operating systems.
3. What does a process control block contain?
4. What is the principle of pre emptive multi tasking?
5. What is meant by race condition?
6. Write the definition of wait operating, in pseudo code?
7. What is meant by dynamic loading?
8. Differentiate between logical address and physical address.
9. What is the function of Virtual File Store?
10. What is the command used to concatenate 2 files? What is its Syntax?

## PART – B

(5 x 12 = 60)

Answer All the Questions

11. Explain the I/O management, file management and storage management functions of operating systems.  
(or)
12. What are the types of services provided by operating systems for the convenience of the programmer and also for the efficient operating of the system?

13. Illustrate the principles of process scheduling, with necessary diagrams.

(or)

14. Illustrate the need for an the concept of cooperating processes, with an example.

15. What is meant by critical section problem? What are the conditions to be satisfied by a solution to the problem?

(or)

16. Illustrate the use of semaphores to deal with n-process critical section problem.

17. What are the necessary conditions for deadlocks? What are the methods for handling deadlocks?

(or)

18. Illustrate the paging scheme of memory management, with an example.

19. Illustrate the features of Linux ext2fs file system.

(or)

20. Write a menu-driven shell program to let the users choose one of the following options:

(a) display the contents of password file

(b) Display all the users logged in

(c) Print the current working directory and a list of files in it.

(d) Create a sub directory in the current directory and create a file of given name.

The menu should be boldly displayed at the centre and the selected choice should be executed.