

Tilak Maharashtra University
Diploma in Engineering
SUB: Operating System + Unix

Year –TY

Branch- Computer

Semester -6th

Assignment No: 1

Answer any five of the

following

1. In a multiprogramming and time sharing environment, several users share the system simultaneously. This situation can result in various security problems.
 - a. What are two such problems?
 - b. Can we ensure the same degree of security in a time sharing machine as in a dedicated machine? Explain your answer.
2. What is the purpose of command interpreter? Why is it usually separate from the Kernel? Would it possible for the user to develop a new command interpreter using the system call interface provided by the O.S.
3. List five services provided by an os that are designed to make it more convenient for users to use the computer system. In what cases it would be impossible for user level programs to provide these services? Explain.
4. Describe the actions taken by a kernel to context switch between processes.
5. Why it is important for the scheduler to distinguish Mo bound program from CPU-bound programs?
6. Discuss how the following pairs of scheduling criteria conflict in certain settings.
 - a. CPU utilization and response time
 - b. Average turnaround time and maximum waiting time.
 - c. Ilo utilization and cpu utilization.

Assignment No: 2

Answer any five of the following

1. Compare the main memory organization schemes of configures memory allocation pure segmentation and pure paging with respect to the following issues.
 - a) external fragmentation
 - b) internal fragmentation
 - c) ability to share code across processes.
2. Discuss the hardware support required to support demand paging.
3. The open file table is used to maintain information about files that are currently open should the operating system maintain a separate table for each user or just maintain one table that contains references to files that are being accessed by all users at current time? If the same file is being accessed by two different programs or users, should there be separate entries in the open file table?
4. What are the advantages of the variant of linked allocation that uses a FAT to chain together the blocks of a file?
5. Give an example of an application that could benefit from operating system support for random access to indexed files.
 6. Why are segmentation and paging sometimes combined