2/4 B.Tech SECOND SEMESTER

IT4L3 UNIX & SHELL PROGRAMMING LAB Credits: 2

Lecture: --- Internal assessment: 25 marks
Lab: - 3 periods /week Semester end examination: 50 marks

Objectives:

- To understand the implementation of various cpu scheduling algorithms.
- To understand the implementation of different memory management schemes.
- To understand basic unix commands.
- To understand the mathematical calculations using shell programming.

Outcomes:

Students will be able to:

- Implement cpu scheduling algorithms
- Implement different memory management schemes.
- Practice basic unix commands
- Find out certain mathematic calculations using shell programming.
- Simulate different unix commands in c.

Exercises:

1. Implement CPU Scheduling Algorithms First Come First Serve & Shortest Job First.
2. Implement CPU Scheduling Algorithms Priority & Round Robin.
3. Memory Management Scheme- I Firstfit & Bestfit.
4. Memory Management Scheme-II FIFO & LRU.
5. Basic UNIX Commands.
6. Shell Programming
   a. Even or Odd b. Biggest Of Two Numbers
   c. Biggest Of Three Numbers d. Factorial of Number
   e. Fibonacci Series
7. System Calls of Unix Operating System
   a. Write a C Program to get File Statistics using stat ( ) System Call.
   b. Wait Use wait () to return the Parent Id of the child process.
   c. getpid returns the Process Id, and Its Parent Pid.
8. System Calls of Unix Operating System
   a. fork To create a child process.
   b. exec To transform an executable binary file into process.
   c. opendir, readdir To display the tiles in the given directory.
9. I/O System Calls of UNIX Operating System open, write, read, close.
   Program to simulate UNIX Commands ls, cat, mv.
10. Write a C program that illustrates Two-way communication using IPC (pipe & FIFO).

Reference Books:

1. Unix and Shell programming ,Behrour a A.Forozan,Richard F Gilber,CENGAGE
2. Advanced Unix Programming,N.B Venkateswarlu,B.S.Publications
3.Operating System Concepts- Abraham Silberchatz, Peter B. Galvin, Greg Gagne 8th Edition, John Wiley.