Syllabus

MCA-2102: MODREN OPERATING SYSTEM WITH UNIX
Max. Marks: 80
Time: 3 Hrs.
Note: There shall be nine questions in all. Question no. 1 shall be compulsory, consisting of eight short answer type questions covering the entire syllabus. Two questions will be asked from each unit. Student will have to attempt one question from each unit.
Each question shall carry equal marks.

Learning Objectives:
1. The main objective of the subject to provide knowledge to the student about the working of the different type operating system as well as student can understand the functionality of input and output device interaction with the system.
2. After studying this subject also able to know the use of memory and file with the process management

Unit - I
Introduction of Windows and UNIX operating system: Basic feature of Operating System; Process and CPU Scheduling, Multithreaded Programming, Scheduling Criteria, Multiple Processor Scheduling, Real-Time Scheduling. File Structure; Memory Management: Swapping, Demand paging, Virtual Memory, Critical Section Problem, Mutual Exclusion Problem.

Unit – II
Introduction of Deadlock, methods of handling, Prevention and Avoidance, Deadlock Detection, Recovery from Deadlock, Disk Scheduling. Commands: User Names and Groups, Logging in; Format of UNIX commands; Changing your password; Characters with Special
Meaning; Files and Directories; Current directory, Directory contents, Absolute and Relative Pathnames, File contents; File access Permissions; Basic operation on Files; Changing Permission Modes; Standard files, Standard output; Standard Input, Standard Error.

Unit - III
Filter and pipelines, Text Manipulation: Inspecting Files; File Statistics, Searching for Patterns; Comparing Files; Operations on File;

Printing Files, Rearranging Files; Splitting Files; translating characters; calculator command, nice command, Processes: Finding out about Process; Stopping Background Process. File System; Block and Fragments, I-nodes, Directory Structure; User to User Communication.
UNIX Editor vi.

Unit - IV
Shell Programming: Programming in the Borne Shell, C-Shell and Korn-Shell; Wild cards; shell programming; Shell variables; interactive shell scripts; AWK utility.
System Administration: Definition; Booting system; Maintaining user accounts; File systems and special files; Backups and restoration; Role and functions of a system manager, Overview of Linux operating system, Difference between LINUX and UNIX.

Importtant Questions