

Maulana Abul Kalam Azad University of Technology, West Bengal
(Formerly West Bengal University of Technology)
Syllabus for B. Tech in Computer Science & Engineering
 (Applicable from the academic session 2018-2019)

Operating System Lab

Code: PCC-CS592

Contacts: 4P

Name of the Course:	Operating System Lab
Course Code: PCC-CS592	Semester: V
Duration: 6 months	Maximum Marks: 100
Teaching Scheme:	
Theory: hrs./week	Continuous Internal Assessment
Tutorial: NIL	External Assessment: 60
Practical: 4 hrs./week	Distribution of marks: 40
Credit Points:	2

1. Managing Unix/Linux Operating System [8P]:

Creating a bash shell script, making a script executable, shell syntax (variables, conditions, control structures, functions,

commands). Partitions, Swap space, Device files, Raw and Block files, Formatting disks, Making file systems, Superblock, I-nodes, File system checker, Mounting file systems, Logical Volumes, Network File systems, Backup schedules and methods Kernel loading, init and the inittab file, Run-levels, Run level scripts. Password file management, Password security, Shadow file, Groups and the group file, Shells, restricted shells, user-management commands, homes and permissions, default files, profiles, locking accounts, setting passwords, Switching user, Switching group, Removing users & user groups.

2. Process [4P]: starting new process, replacing a process image, duplicating a process image, waiting for a process, zombie process.

3. Signal [4P]: signal handling, sending signals, signal interface, signal sets.

4. Semaphore [6P]: programming with semaphores (use functions semctl, semget, semop, set_semvalue, del_semvalue, semaphore_p, semaphore_v).

5. POSIX Threads [6P]: programming with pthread functions (viz. pthread_create, pthread_join, pthread_exit, pthread_attr_init, pthread_cancel)

6. Inter-process communication [6P]: pipes (use functions pipe, popen, pclose), named pipes (FIFOs, accessing FIFO), message passing & shared memory (IPC version V).