Lesson Plan

B.Sc Computer Science Semester IV

PAPER II: Operating System

Teacher name: Surjeet Singh

April 2021

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| Introduction: operating system, architecture, functions, characteristics, historical evolution, types: Serial batch, multiprogramming, time sharing, real time, distributed and parallel. OS as resource Manager. Computer system structures: I/O structure, storage structure, storage hierarchy. Operating system structure: system components, services, system calls, system programs, system structures. |

May 2021

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| Process management: process concepts, process state, process control block, operations, process scheduling, inter process communication. CPU Scheduling: scheduling criteria, levels of scheduling, scheduling algorithms, multiple processor scheduling. Deadlocks: Characterization, methods of handling, deadlock detection, prevention, avoidance, recovery. |

June 2021

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| Storage Management: memory management of single-user and multiuser operating system, partitioning, swapping, paging and segmentation, virtual memory, Page replacement Algorithms, Thrashing. Process synchronization: critical section problems, semaphores. Mutual exclusion  Device and file management: Disk scheduling, Disk structure, Disk management |

July 2021

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| File Systems: Functions of the system, File access and allocation methods, Directory Systems: Structured Organizations, directory and file protection mechanisms. |