Course Code: 203 Course Title: Operating System

Course Code	203
Course Title	Operating System
Credits	3
Course Category	Minor Course
Level of Course	100-199 (Foundation / Introductory)
Teaching per Week	3 Hrs.
Minimum weeks per	15 (Including class work, examination, preparation etc.)
Semester	
Review / Revision	2022-2023
Implementation Year:	A.Y. 2023-2024
Purpose of Course	An Operating System (OS) is a software that manages computer hardware and software resources and provides common services for computer programs. The operating system is an essential component of the system software in a computer system. Application programs usually require an operating system to function. The course is based on open source operating systems like Linux.
Course Objective	1. To understand functionality provided by an Operating System.
9	2. To make aware with basic concepts of Windows O. S. Management.
	3. To learn about device management.
Pre-requisite	Basic knowledge of computer fundamentals.
Course Outcomes	CO1: Students will learn how operating system is important for computer system and what is the role of an OS, and also learn different types of operating system and their services. CO2: Students will be able to understand the structure and organization of file system. CO3: To differentiate between windows and linux OS CO4: To install and maintain linux workstation and also able to manage user accounts. CO5: To understand devices, usage of devices, scheduling algorithms and decide which is the best one. CO6: Students will be able to develop application the coordinate with respective OS in a much better way which is an essential.
Mapping between Course	PSO1 PSO2 PSO3 PSO4 PSO5 PSO6 PSO7 PSO8
Outcomes(CO) with	CO1
Program	
Outcomes(PSO)	CO2
	CO3
	CO4
	CO5
	CO6

Course Content	Unit 1. Operating System Concepts
	1.1.Evolution of Operating System & History
	1.2.Need of an Operating System
	1.3.Single User & Multi User Operating System
	1.3.1 Types of OS and their advantages and dis-advantages
	1.3.2 Batch OS, Distributed OS, Multi-Tasking OS
	1.3.3 Rea-time OS, Mobile OS
	1.4.Elements of an Operating System 1.5.Operating
	System as a Resource Manager
	Unit 2. Introduction to File System and File Management 2.1.File Concept
	2.2.Operations on File
	2.3. File Access Methods (Sequential Access and Direct Access)
	2.4. Directory Systems File Management Functions.
	2.5. File System and Directory Structure organization.
	2.6. File Protection.
	Unit 3. Introduction of Linux
	3.1.Introduction of Linux versions
	3.2.Components of Linux
	3.3.Comparison of Windows and Linux
	Unit 4. Linux Administration
	4.1. Installing Linux
	4.2. Installation of Open Source Software
	4.3.Maintaining User Accounts
	4.4.System Config Services (Package)
	Unit 5. Device Management
	5.1.Device Management Function
	5.2.Device Characteristics
	5.3.Disk space Management
D.f D. d.	5.4.Allocation and Disk Scheduling Methods
Reference Books	 Operating System Concepts: – James Peterson: – McGraw Hill Operating System: – Stallings - PHI
	3. Operating System Principles: – Silberschatz, Galvin, Gagne - Willey,
	India
	4. Operating Systems – A. S. Godbole – Tata McGraw Hill
	 Linux – The Complete Reference – Richard Petersen – Tata McGraw Hill
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	30% Internal assessment.
	70% External assessment.