SWARNANDHRA
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Accredited by National Board of Accreditation, AICTE, New Delhi, Accredited by NAAC with "A" Grade – 3.32 CGPA, Recognized under 2(f) & 12(B) of UGC Act 1956, Approved by AICTE, New Delhi, Permanent Affiliation to JNTUK, Kakinada
Seetharampuram, W.G.DT., Narsapur-534280, (Andhra Pradesh)

DEPARTMENT OF INFORMATION TECHNOLOGY
TEACHING PLAN

Course Code	Course Title	Semester	Branch	Contact Periods /Week	Academic Year	Date of commencement of Semester
19IT5T02	OPERATING SYSTEMS	V	IT	5	2021-2022	25-10-2021

COURSE OUTCOMES	
1	An ability to understand basic concepts of operating systems.
2	An ability to describe process management, scheduling and concurrency control mechanisms.
3	An ability to analyze various memory management schemes
4	An ability to understand the various issues in the deadlock.
5	An ability to compare various Disk Scheduling Algorithms.

UNIT	Out Comes / Bloom's Level	Topics No.	Topics/ Activity	Text Book/ Reference	Contact Hour	Delivery Method
I	CO– 1	1.1	Introduction	T2	1	Chalk & Board Power point presentations Assignment Test
		1.2	Overview of computer operating systems	T2	1	
		1.3	Evolution of operating systems-Simple	T2	1	
		1.4	batch, multi programmed, time shared	T2	1	
		1.5	Operating systems Services	T2	1	
		1.6	parallel and distributed systems	T2	1	
		1.7	Special Purpose systems	T2	1	
		1.8	System calls	T2	1	
		1.9	Types of system calls	T1	1	
		1.10	Introduction to Linux And Linux Utilities	T1	1	
		1.11	A brief history of LINUX	T1	1	
		1.12	architecture of LINUX	T1	1	
		1.13	Linux commands	T1	1	
Content beyond syllabus		1.14	operations	T1	1	
				Total	14	
		2.1	Introduction	T1	1	Chalk &
		2.2	Process concept	T1	1	
		2.3	process scheduling	T1	1	

II	CO – 2	2.4	operations operations	T1	1	Board
		2.5	Inter process communication	T1	1	Power point presentations
		2.6	Threading overview	T1	1	
		2.7	multi thread programming models	T1	1	Assignment
		2.8	Process scheduling criteria	T1	1	Test
		2.9	Algorithms and their evaluation	T1	1	
		2.10	Concurrency	T1	1	
		2.11	Back ground of process synchronization	T1	1	
		2.12	the critical- section problem	T1	1	
		2.13	Peterson's Solution	T1	1	
		2.14	Synchronization Hardware	T1	1	
		2.15	Semaphores	T1	1	
		2.16	Classic problems of synchronization	T1	1	
		2.17	Monitors, and Synchronization examples	T1,T3	1	
				Total	17	
III	CO – 3	3.1	Main Memory	T1	1	Chalk & Board
		3.2	Swapping	T1	1	
		3.3	Contiguous memory allocation	T1	1	Power point presentations
		3.4	Paging, Structure of the page table	T1	1	
		3.5	Segmentation	T1	1	Assignment
		3.6	Virtual Memory	T1	1	
		3.7	Back ground, virtual memory	T1	1	Test
		3.8	Demand paging	T1	1	
		3.9	Copy-on-write	T1	1	
		3.10	Page-Replacement algorithms	T1	1	
		3.11	Allocation of Frames	T1	1	
		3.12	Thrashing	T1,T3	T1	
				Total	12	
IV	CO – 4	4.1	Principles of deadlock	T1	1	Chalk

		4.2	System model	**T1**	**1**	**& Board**
		4.3	Deadlock prevention	**T1**	**1**	
		4.4	Detection and avoidance	**T1**	**1**	**Power point presentations**
		4.5	Recovery form deadlock.	**T1**	**1**	
		4.6	Protection and Security	**T1**	**1**	
		4.7	Protection, Goals of Protection	**T1**	**1**	**Assignment**
		4.8	Security-Problems, Program Threats	**T1**	**1**	**Test**
		4.9	System and Network Threats	**T1**	**1**	
		4.10	cryptography as security tool	**T1**	**1**	
		4.11	Cache Memory	**T1**	**1**	
		4.12	User authentication.	**T1**	**1**	
Content beyond syllabus		**4.13**	Deadlock Characterization	**T1**	**1**	
				Total	**13**	
V	**CO – 5**	**5.1**	File system: Concept of a file	**T1, R1**	**1**	**Chalk & Board**
		5.2	Access Methods	**T1, R1**	**1**	
		5.3	Directory structure	**T1, R1**	**1**	
		5.4	File sharing, protection, File system structure,	**T1, R1**	**1**	**Power point presentations**
		5.5	Implementation, Directory implantation	**T1, R1**	**1**	
		5.6	File allocation methods, free-space management	**T1, R1**	**1**	
		5.7	Mass-storage structure: overview of Mass-storage structure	**T1, R1**	**1**	**Assignment**
		5.8	Disk structure, disk attachment	**T1, R1**	**1**	**Test**
		5.9	Disk scheduling algorithms.	**T1, R1**	**1**	
				Total	**9**	
				CUMULATIVE PROPOSED PERIODS	**65**	

Text Books:

S.No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
1	Abraham Silberchatz, Peter B. Galvin,Gagne, John Wiley Operating System Concepts-7th Edition
2	William Stallings ,'Operating Systems' – Internal and Design Principles Stallings, 9th

	9th Edition, Pearson education, 2013.
Reference Books:	
S.No.	**AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION**
1	D.M. Dhamdhere, Operating systems- A Concept based Approach, 3rd Edition, TMH, 2017.
2	Charles Crowley, Operating System - A Design Approach, Tata McGraw hill Edition, TMH, 2012.
3	Andrew S Tanenbaum, Modern Operating Systems, PHI, 4th edition, 2016.
Web Details:	
1	https://www.javatpoint.com/os-tutorial
2	https://www.geeksforgeeks.org/introduction-of-process-management/

		Name	Signature with Date
i.	Faculty	Mrs. V Alekhya	25/10/21
ii.	Module Coordinator	Mr. K. Raja	25/10/21
iii.	Programme Coordinator	Dr. RVVSV Prasad	25/10/21

Principal