



**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**Syllabus for Bachelor of Vocation (B.Voc), 1<sup>st</sup> Semester**  
**Branch: Software Development**  
**Subject Name: Operating System**  
**Subject Code: 1110204**

**With effective  
from academic  
year 2018-19**

**Teaching and Examination Scheme:**

Teaching Scheme			Credits	Examination Marks				Total Marks
L	T	P		Theory		Practical		
			University exams (ESE)	Internal evaluation (PA)	External Practical /viva Exam(ESE)	Internal Practical /viva Exam(PA)		
3	-	-	3	50	-	-	-	50

L- Lectures; T- Tutorial/Teacher Guided Student Activity; P- Practical; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment

**Content:**

Sr. No.	Practical / Hands on Exercise	Hrs.
1	<b>System Software:</b> Operating System, Compiler, Interpreter and Assembler;	06
2	<b>Operating System:</b> Need for Operating System, Functions of Operating System (Processor Management, Memory Management, File Management and Device Management), Types of Operating System-Interactive (GUI based), Time Sharing, Real Time and Distributed, commonly used Operating System: UNIX, LINUX, Windows, Solaris, BOSS (Bharat Operating System Solutions); Mobile OS – Android, Symbian, IOS.	26
3	<b>Utility Software:</b> Anti-Virus, File Management tools, Compression tools and Disk Management tools (Disk Cleanup, Disk Defragmenter, Backup).	10
<b>Total</b>		42

**Suggested Specification table with Marks (Theory):**

Distribution of Theory Marks				
R Level	U Level	A Level	N Level	E Level
5	25	25	10	5

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate and above Levels (Bloom's Taxonomy)

**Reference Books:**

1. Operating System Concepts (8th Edition) by Silberschatz, Peter B. Galvin and Greg Gagne, WileyIndian Edition (2010).Web Technologies, Black Book, dreamtech Press
2. Modern Operating Systems (Third Edition) by Andrew S Tanenbaum, Prentice Hall India (2008)
3. Unix Shell Programming – by Yashwant Kanetkar, BPB publications.

**Course Outcomes:**

Course Outcome: After learning the course the students should be able to:

1. Understand various generations of Operating System and functions of Operating System.



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2. Understand the concept of program, process and thread and Analyse various CPU Scheduling Algorithms and compare their performance. Solve Inter Process Communication problems using Mathematical Equations by various methods.
3. Compare various Memory Management Schemes especially Paging and Segmentation in Operating System.
4. Also apply various Page Replacement Techniques.
5. Understand File Systems in Operating System like UNIX/Linux and Windows.
6. Understand Input Output Management and use of Device Driver and Secondary Storage (Disk) Mechanism.