



SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE (Autonomous)
(Accredited with A grade by NAAC) | (An ISO 9001:2015 Certified Institution)

SUNDARAKKOTTAI, MANNARGUDI - 614016.

Value Added Course

(For the candidates admitted from the academic year 2021 – 2022)

ELIGIBILITY: Candidates who have passed 12th and above

Course	Sem	Course Code	Title	Instruction Hours /Week	Credit	Exam Hours	Marks		Total
							Internal	External	
Value Added Course	I	21VACS1	Unix Programming	30					
	II	21VACS2	Computer Hardware Fundamentals	30					
GRAND TOTAL									



SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)
PG AND RESEARCH DEPARTMENT OF COMPUTER SCIENCE
(Affiliated to Bharathidasan University, Tiruchirappalli)
(Accredited with 'A' Grade by NAAC | ISO 9001:2015 Certified Institution)
Sundarakkottai- 614 016, Mannargudi, Thiruvarur (Dt), Tamil Nadu, India.
VALUE ADDED COURSE

Semester I: UNIX PROGRAMMING

Ins. Hrs. /Week: 30

Course Credit:

Course Code:21VACS1

OBJECTIVES:

- To explain the basic concepts of Unix operating system.
- To classify various tools and technologies Unix.
- To illustrate the security features of Unix.

UNIT-I: Unix Fundamentals

(6 Hours)

Brief History-Unix Versions-Operating System Components-**First Steps**-System Startup-Logging In And Out Of Unix-System Shutdown-Getting Help With Man Pages-**Understanding Users And Groups**-Account Basics-Managing Users And Groups- /etc/passwd - /etc/shadow - /etc/group - Mac OS X - Differences -Managing Accounts And Groups-Becoming Another User-User And Group Related Commands.

UNIT-II: File System Concepts

(6 Hours)

File System Basics-Paths And Case-Navigating The File System-File Types-Links-File Directory Permissions-Changing Permissions-Viewing File-Creating, Modifying, And Removing Files-Basic File System Management- Making File Systems Accessible-**Customize Your Working Environment**- Environment Variables- Understanding The Path-Choosing A Shell-Dynamic Shared Library Paths-Unix Command In Depth.

UNIT-III: Editing Files with Vi

(6 Hours)

Using Vi- Moving Within A File- Searching Files- Exiting And Saving A File- Editing Files-Help!- Versions Of Vi- **Advanced Tools**- Regular Expressions and Metacharacters- Using SFTP And FTP- More Advanced Commands- grep - find -sort - tee - script - wc -**Advanced Unix Commands**: Sed And AWK- Sed- AWK- Programming With AWK..

UNIT-IV: Job Control and Process Management

(6 Hours)

Process-Shell Scripts-Running Processes- System Processes-Process Attributes-Stopping Processes-The Top Command-The /Proc File System-SETUID and SETGID-Shell Job Control-**Running Programs At Specified Times**-System Clock- Scheduling Commands To Run In The Future- Routine Execution with Cron-One-Time Execution with at.

UNIT-V: Security**(6 Hours)**

The Basics of Good Security- Securing Your Unix System- Limiting Administrative Access- System Administration Preventive Tasks- Remove Unneeded Accounts-Patch, Restrict, Or Remove Programs-Disable Unneeded Services- Monitor and Restrict Access To Services-**Basic Shell Scripting**- Commenting And Documenting Scripts- Getting Down To It- Flow Control- Choosing A Shell For Scripting.

COURSE OUTCOMES:

The students are able to

1. Understand the basic concepts of Unix Operating System.
2. Identify various commands of File Management
3. Describe the working of Vi Shell Editor
4. Understand the basic components of Job Control and Process Management
5. Discuss the concepts of Security features and basic Shell Scripting of Unix

TEXT BOOK(S):

1. Paul Love, Joe Merlino, Craig Zimmerman, Jeremy C. Reed, And Paul Weinstein 2005, Beginning Unix, Wiley Publications, Second Edition.

REFERENCE BOOK(S):

1. Sriranga Veeraraghavan,2002, Sams Teach Yourself Shell Programming in 24 Hours, Sams publications

E_RESOURCES:

1. <https://www.slideshare.net/ananthimurugesan/unix-basic-commands>
2. <https://www.cs.ucf.edu/~dcm/Teaching/COP4600-Spring2011/Presentations/Unix.pptx>
3. <https://slideplayer.com/slide/7323000/>



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VALUE ADDED COURSE

Semester II: COMPUTER HARDWARE FUNDAMENTALS

Ins. Hrs. /Week: 30

Course Credit:

Course Code:21VACS2

Objectives:

- To understand the concepts of computer and its devices.
- To understand the basic concepts memory and its types.
- To understand the basic concepts of I/O Devices.

UNIT- I

(6 Hours)

Introduction To Computers: Types of Computers - Micro, Mini, Mainframe And Super Computer, Architecture of A Computer System–Processor (CPU) - Types and Their Specifications-**Intel:** Celeron -P4 Family- Xeon- Dual Core- Quad Core-Core 2 Duo- I3-I5-I7 – AMD- Arithmetic Unit-Logic Units-Control Unit.

UNIT –II

(6 Hours)

Memory: Types, Storage, Semiconductor Memories: RAM-ROM- PROM- EMPROM- EEPROM- Static and Dynamic- Cache Memory- Secondary Storage Devices: Types- Capacity- Popular Brands- Standards- Interface- Concept of Tracks- Sector- Cylinder And Cluster. Jumper Setting: CMOS Setting- Input / Output Devices. **Serial Port and Parallel Port**–Principle of Communication-Types of Connecting Devices- Interface Standards-Connectors.

UNIT-III

(6 Hours)

Keyboard: Types of Keyboard- Correcting Problems- Vacuum Cleaners And Keyboards- Keyboard Maintenance- **Mouse:** Mouse Basics- Working With A Mouse- Performing Mouse Actions- Inside The Mouse- Adjusting Mouse Properties- Mouse Keys- Mouse Maintenance- Optical Mouse- Breakdown And Break Through.

UNIT-IV

(6 Hours)

Monitors: Basic- VGA-DVI-Viewable Area- Maximum Resolution and Dot Pitch-Power Consumption- Flat Panel- Monitor Resolution- Color Depth- Degaussing- Power Option for Monitor- Display Option For Monitor- Monitor Maintenance- Types Of Monitor-LCD Monitors- LED Monitors-OLED Monitors- Plasma Monitor-CRT Monitors- Structure Of Monitor- Types Of

Scanners- Plotters- Types Of Plotters- Flatbed Scanner- Automated Document Feeder-Overhead Scanner- QR Code Or Bar Code Scanner-Drum Scanner.

UNIT-V

(6 Hours)

Printers: Printer Characteristics- Type Quality- Print Speed- Impact vs Non-impact and Fonts. Inkjet Printers: Common Features- Operations- Parts of Inkjet Printer- Control Panel- Trays- Cartridges- Cleaning Cartridges- Replacing Cartridges- Clearing Paper Jams. Laser Printers: Common Features- Operations, Technology- Control Panel- Trays- Output Bin- Cartridges- Redistributing Toner- Internal Cleaning- Paper Jams- Cancel Printing Jobs- Setting Preferences and Defaults of Printing- Breakdown and Break Through.

COURSE OUTCOMES:

The students are able to

1. Understand Basic Concepts Computer
2. Understand about various types of Memory and Ports
3. Describe the working of Keyboard and Mouse.
4. Discuss the basics of Monitor
5. Understand about Printers and its types.

Text Books:

1. PC Hardware: The Complete Reference by Craig Zacker and John Rourke
2. Modern All about Printer, Lotia

Reference Books:

1. Modern All about Keyboard and Mouse, Lotia
2. Modern TFT & LCD Monitor Introduction and Troubleshooting, BPB Publication

E-Resources:

1. https://en.m.wikipedia.org/wiki/Computer_hardware
2. <https://www.computerhope.com/jargon/h/hardware.htm#:~:text=Abbreviated%20as%20HW%2C%20hardware%20is,or%20smartphone%2C%20it%20is%20hardware>
3. https://en.m.wikiversity.org/wiki/IT_Fundamentals/2014/Hardware