

Open Source Software Laboratory				
CLASS T.E. ( INFORMATION TECHNOLOGY)				
SEMESTER V				
HOURS PER WEEK	LECTURES	:	--	
	TUTORIALS	:	02	
	PRACTICALS	:	02	
			<b>HOURS</b>	<b>MARKS</b>
EVALUATION SYSTEM:	THEORY		--	--
	PRACTICAL		--	25
	ORAL		--	--
	TERM WORK		--	25

### 1. Introduction To Linux

An Introduction to UNIX, Linux, and GNU What Is UNIX, What Is Linux, The GNU Project and the Free Software Foundation

### 2. Installation of Linux

Basic Installation, network based installation

### 3. Linux System Administration

Process Management with Linux, Memory Management, File System management, User Administration, Linux Startup and Shutdown, Software package Management

### 4. Shell Programming

Shells, Scripting Rationale Creating a bash Script, bash Startup Files, A Script's Environment, Exporting Variables, Exit Status, Programming the Shell, Parameter Passing, Operators, looping, Input and Output ,Interrupts

### 5. Software Tools

C Language and Linux, MySQL Database, Network Simulator, SciLAB configuration, Multimedia, etc.

### 6. Kernel Configuration

Overview of the Linux Kernel, Configuring the Linux Kernel, Configuration Options, Building and Installing the Kernel, Building the Kernel, Installing a New Kernel, Configuring your Boot Manager

### 7. Network Administration

LAN Card configuration, DHCP, DNS, FTP, Telnet, SSH, NFS, Web Server, SQUID Proxy configuration

### **Text Books**

1. Terry Collings, Kurt Wall, “Red Hat Linux Network and System Administration” 3<sup>rd</sup> edition Wiley.
2. Nemeth, “Linux Administration Handbook”, 2e, Pearson Education,
3. Neil Mathews, “Beginning Linux Programming” 4<sup>th</sup> edition, Wrox Press.
4. Best, “Linux Debugging and Performance Tuning : Tips and Techniques”, Pearson Education
5. Habraken, “Novell Linux Desktop 9 User’s Handbook”, Pearson Education.

### **Term Work**

Term work shall consist of at least 10 practical experiments covering all topics and one written test.

### **Marks**

Distribution of marks for term work shall be as follows:

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|--|----------|
| 1. Attendance (Theory and Practical)         | 05 Marks |
| 2. Laboratory work (Experiments and Journal) | 10 Marks |
| 3. Test (at least one)                       | 10 Marks |

The final certification and acceptance of Term Work ensures the satisfactory Performance of laboratory Work and Minimum Passing in the term work.

### **Suggested Experiment List**

1. Linux OS Installation
2. System Accounting and Logging
3. File Systems
4. Shell Scripts
5. Logic Development
6. Command Line Argument Handling
7. Loops Using while and for statement
8. Arithmetic in shell scripting
9. File handling
10. Screen handling/echo command with escape sequence code
11. Background process implementation
12. User interface and functions in shell script
13. Application development using tools like network simulators, MySQL Databases.