

Course Code	Course Name	Teaching Scheme			Credits Assigned			
		Theory	Practical	Tutorial	Theory	Practical/Oral	Tutorial	Total
TEITC505	Open Source Technologies	03 Hr/Week	02 Hr/Week	---	03	01	---	04

Course Code	Course Name	Examination Scheme							
		Theory Marks				Term Work	Practical	Oral	Total
		Internal assessment			End Sem. Exam				
		Test1	Test 2	Avg. of 2 Tests					
TEITC505	Open Source Technologies	20	20	20	80	25	25	---	150

Course Objectives:

1. To introduce the concept of open Source Software.
2. To enable students to learn Linux Environment.
3. To make students well versed with Android and Shell Programming

Course Outcomes: On successful completion of this course students should be able:

1. To develop android applications.
2. To install and work on Linux.
3. To perform Shell Programming.

DETAILED SYLLABUS

Sr. No.	Module	Detailed Content	Hours
1.	Over View of Open Source Software	Need of Open Sources –Advantages of Open sources – Applications- FOSS – FOSS usage –Free Software Movement – Comercial Aspect of Open Source Movement – Licensing – Certification – Open Source Software Development Model – comparision with close source / Proprietary software – Free Software – Open source vs source –available –Widely used open source software license :Apache License, BSD license, GNU General Public License, GNU Lesser General Public License, MIT License, Eclipse Public License and Mozilla Public License.	04
2.	Open Source Operating System	Installation of Linux (Redhat-CentOS): Theory about Multiboot Enviroment, Hardisk Partitioning, Swap space, LVM, and Bootloader Command Line: Basic File System Manamgnet Task, Working with files, Piping and Redirection, Working with VI editor, use of sed and understanding FHS of Linux	04
3.	Open Source Operating System: system Administrator task	Job management, Process Mangment, Mounting Devices and filesystem working with Linux, Backup, working with user, group and permission, Managing Software. Understanding Boot process and related files, Common kernel Manamgnet Task	04
4.	Open source Operating System: Network and Security Administration	Basic networking commands, Configuration of Apache Web servers, DNS servers, DHCP servers, mail Servers, NFS, FTP servers. Securing servers with IPTables. Setting up cryptographic services, SSL, Managing Certificate with OpenSSL, working with the GNU Privacy guard.	06

5.	Open Source Operating System: Shell Programming	Bash Shell Scripting, Executing Script, Working with Variables and Input, Using Control Structures, Script control, handling with signals, Creating functions, working sed and awk -Working with web using shell script: Downloading web page as formatted text file and parsing for data, working cURL etc.	08
6.	Open source Tools Only in LAB	Version Control using RCS and CVS (hands on RCS in single Machine) Content management : Understanding working of Drupal (Basic Drupal components) Security assessment : OpenVAS IDE :Working of Eclipse	---
7.	Open Source Mobile Programming	Android programming: Setting up Android Environment (using Eclipse for android development), Activities and Intents, User Interface, Designing UI using views, Data Persistence, Content Providers, messaging and networking, Location-based Services, Publishing Android Applications	10

Text Books:

1. Redhat Linux 6.0 Administration Wiley
2. Linux Shell scripting Cookbook: Sarath Lakshman PACKT
3. Linux Lab - Open source Technology : Ambavade -Dreamtech
4. Beginning Android Development Wrox Press

References:

1. Drupal guide to Planning and Building Web Site: Wrox Press

Term Work: 25 Marks (Total marks) = 15 Marks (Experiment and Case Studies) + 5 Marks (Assignments) + 5 Marks (Attendance)

Suggested Practical List :

1. Linux command line : File System, Process Management User Administration
2. Setting Up Web server, DNS server, FTP Servers
3. Working with IPTABLES, OpenVAS
4. Version Control
5. Working with Drupal
6. Shell Script
7. Andorid Setup
8. Programing in Andorid
9. Programming in Android

Theory Examination:

1. Question paper will comprise of 6 questions, each carrying 20 marks.
2. Total 4 questions need to be solved.
3. Q.1 will be compulsory, based on entire syllabus wherein sub questions of 2 to 3 marks will be asked.
4. Remaining question will be randomly selected from all the modules.
5. Weightage of marks should be proportional to number of hours assigned to each module.