Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058-India
(Autonomous Institute Affiliated to University of Mumbai)

Course Code	Course Name	Teaching Scheme (Hrs/week)			Credits Assigned			
		L	T	P	L	T	P	Total
TEITC505	Open Source Technologies	3	-	-	3	-	-	3
		Examination Scheme						
		ISE	MSE		ESE			
		10	30		100 (60%Weightage)			

Pre-requisite Course Codes		
After successful completion of the course, student will be able to:		
Course Outcomes	CO1	Distinguish the concept of open Source Software ,close software and proprietary software
	CO2	Illustrate the working of Linux Environment
	CO3	Construct Shell Programming
	CO4	Develop android applications

Module No.	Topics	Ref.	Hrs.
1	**Over View of Open Source Software** Need of Open Sources –Advantages of Open sources –Applications-FOSS – FOSS usage –Free Software Movement – Commercial Aspect of Open Source Movement – Licensing – Certification – Open Source Software Development Model – comparison 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.	1,2,3	4
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 Management Task, Working with files, Piping and Redirection, Working with VI editor, use of sed and understanding FHS of Linux	1,2,3	4
3	**Open Source Operating System**: **system Administrator task** Job management, Process Management, MountingDevices and file system working with Linux, Backup, working with user, group and permission, Managing Software. Understanding Boot process and relatedfiles, Common kernel Management Task	1,2,3	4

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 IP tables. Setting up cryptographic services, SSL, Managing Certificate with Open SSL, working with the GNU Privacy guard	1,2,3	6
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 gawk. Working with web using shell script: Downloading web page as formatted text file and parsing for data, working cURL etc.	1,2,3	8
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	5	-
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, Conent Providers, messaging and networking, Location-based Services, Publishing Android Applications	4	10
	Total hours of instructions		36

References:

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 Adnorid Development Wrox Press
5. Drupal guide to Planning and Building Web Site: Wrox Pres