SRM UNIVERSITY

FACULTY OF ENGINEERING AND TECHNOLOGY

SCHOOL OF COMPUTING

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

COURSE PLAN

Course Code : **CS1134**
Course Title : Linux Internals
Semester : V
Course Duration : 2016 – 2017 (EVEN)

DAY	B,Tech Computer Science	
	Hour	Timing
Day order 1	5	11.35 a.m – 12.35 p.m
Day order 2	9	3.20.p.m – 4.10p.m
Day order 3		
Day order 4	6,7	12.35 pm – 2.25p.m
Day order 5		

Location : S.R.M. University – Tech Park(7th Floor)

Sec	Name	Office	Office hour	Mail-id
	P.Visalakshi	TP704	Monday to Friday	Visalakshi.p@ktr.srmuniv.ac.in
	M.Rajasekaran	TP705	Monday to Friday	Rajasekaran.m@ktr.srmuniv.ac.in
	J.Jayapradha	TP705	Monday to Friday	Jayapradha.j@ktr.srmuniv.ac.in
	M.Arul Parakash	TP704	Monday to Friday	Arulprakash.m@ktr.srmuniv.ac.in

TEXT BOOKS

1. Wale Soyinka, "Linux Administration A Beginners Guide", 5th edition, Tata McGraw-Hill, 2009. Ch1-9,13,16-24,26-28)Unit I-IV
2. Mc Kinnon, Mc Kinnon, "Installing and Administrating Linux", 2nd edition, Wiley, 2004. (Ch12,13)Unit-V

REFERENCES

1. Richard Petersen, "Linux:The Complete Reference", 6th edition, Tata McGraw-Hill, 2007.
2. Mark G. Sobell. "Practical Guide to Fedora and Red HatEnterpriseLinux", 6th Edition, Prentice Hall, 2011.
3. www.linuxhomenetworking.com
4. www.linux.org
5. www.linux.com
6. http://www.oreillynet.com/linux/cmd/

Prerequisite : Operating Systems

Objectives

- To introduce Linux server and various distributions.
- To understand user administration and make use of internet and intranet services.
- To learn Linux process control and shell programming.

Assessment Details

Attendance	:	5 Marks
Surprise Test - I	:	5 Marks
Cycle Test - I	:	15 Marks
Cycle Test – II	:	25 Marks

Test Schedule

S.No.	TEST	PORTION	DURATION
1	Cycle Test – I	UNIT-1 & UNIT-2	2 periods
2	Cycle Test – II/ MODEL Exam	UNITS 3TO5	3 Hrs

Objectives

- Students gather thorough knowledge about Unix operating systems.
- Developed skill about working with Unix internals
- Acquire various server connectivity using UNIX
- Learnt about different Unix commands other than operating systems commands

Detailed Session Plan

UNIT I - INSTALLING LINUX AS A SERVER (9 hours) Linux Distributions –Open source software and GNU- Difference between Windows and Linux , Installing Linux in a server configuration, GNOME and KDE– X window system, Managing software.					
SNo.	**Topics To be Covered**	**Time (Mins)**	**Ref**	**Teaching Method**	**Testing Method**
1	Linux Distributions	50	RB1	BB	Discussion
2	Open source software and GNU	50	RB1	BB	Test
3	Difference between Windows and Linux	50	RB1	BB	Quiz
4	Installing Linux in a server configuration	50	RB1	BB	Discussion
5	GNOME	50	RB1	BB	Quiz
6	KDE	50	RB1	BB	Discussion
7	X window system	50	RB1	BB	Quiz
8	Managing software	50	RB1	BB	Quiz
9	DEMO-EX	50	RB1	BB	Quiz
UNIT II - SINGLE – HOST ADMINISTRATION (9 hours) Managing users – User text files –User management tools, Command Line, Boot loaders, File Systems, Core System services, Compiling Linux kernel, Linux -Firewall.					
10	Managing users	50	RB1	BB	Discussion
11	User text files	50	RB1	BB	Discussion
12	User management tools	50	RB1	BB	Quiz
13	User management tools	50	RB1	BB	Quiz
14	Command Line	50	RB1	BB	Quiz
15	Boot loaders	50	RB1	BB	Discussion
16	File Systems	50	RB1	BB	Discussion
17	Core System services	50	RB1	BB	Quiz
18	Compiling Linux kernel Linux firewall.	50	RB1	BB	Quiz
UNIT III - INTERNET SERVICES (9 hours) DNS, FTP-Mechanics- Installing and customizing the server, setting up web server using Apache, SMTP - Install, configure and run postfix server, POP and IMAP, SSH - public key cryptography, creating a secure tunnel					
19	DNS	50	RB1	BB	Discussion
20	FTP-Mechanics-Installation	50	RB1	BB	Test
21	Customizing the server	50	RB1	BB	Discussion

22	Setting up web server using Apache	50	RB1	BB	Discussion
23	SMTP – install and configure	50	RB1	BB	Quiz
24	Run post fix server	50	RB1	BB	Discussion
25	POP,IMAP	50	RB1	BB	Quiz
26	SSH public key cryptography	50	RB1	BB	Discussion
27	creating a secure tunnel	50	RB1	BB	Discussion
UNIT IV -INTRANET SERVICES **(9 hours)** NFS – enable and configure NFS server and client, NIS – configuring Master and secondary NIS server and Client -NIS tools, SAMBA – Administration, Printing –Install cups – add and manage print jobs, DHCP, Virtualization.					
28	NFS	50	RB1	BB	Quiz
29	NFS-enable and configure	50	RB1	BB	Test
30	NFS server and client	50	RB1	BB	Test
31	NIS – configuring Master and secondary	50	RB1	BB	Discussion
32	NIS server and Client	50	RB1	BB	Discussion
33	NIS tools	50	RB1	BB	Discussion
34	SAMBA– Administration	50	RB1	BB	Discussion
35	Printing –Install cups	50	RB1	BB	Assignment
36	Add and manage print jobs DHCP, Virtualization	50	RB1	BB	Discussion
UNIT V - LINUX PROCESS CONTROL & SHELL PROGRAMMING **(9 hours)** Linux process environment – login process – parent child relationship – process variable- process monitoring – Invoking foreground and background process – terminating process - Daemons .Introduction to Shell programming – Shell scripts – executing shell scripts - creating scripts – simple examples.					
37	Linux process environment	50	TB1	BB	Quiz
38	login process	50	TB1	BB	Discussion
39	Parent child relationship	50	TB1	BB	Test
40	Process variable- process monitoring	50	TB1	BB	Discussion
41	Invoking foreground and background process	50	TB1	BB	Discussion
42	Terminating process	50	TB1	BB	Discussion
43	Daemons .Introduction to Shell programming	50	TB1	BB	Quiz
44	Shell scripts – executing shell scripts	50	TB1	BB	Assignment
45	Simple examples.	50	TB1	BB	Discussion

Course Coordinator **Approved by**

P.Visalakshi **HOD/CSE**