



GOVERNMENT OF TAMILNADU
DIRECTORATE OF TECHNICAL EDUCATION, CHENNAI
STATE PROJECT COORDINATION UNIT
(Established under Canada India Institutional Cooperation Project)

CURRICULUM

Course Name	LINUX SYSTEM ADMINISTRATION
Course Code	CSE/2020/017
Course Duration	60 Hours
Minimum Eligibility Criteria and Pre-requisites(if any)	ITI/10 th +2/Diploma/Graduates Basics Knowledge of networking
Course Objectives	The main objective of the course is to: <ul style="list-style-type: none"> • Understand administrative tasks in Linux system • Implement server configurations, user rights, user addition • Have knowledge of Maintenance of security and user accounting.
Course Outcomes	At the end of training, the participants will be able to <ul style="list-style-type: none"> • Demonstrate Linux system administration using commands • Perform server configurations • Implement Linux server and configure servers to manage various users.
Expected Job Roles	Linux Admin, System Administrator

TEACHING AND SCHEME OF EXAMINATION

Course Code	Course Name	Hours		Assessment Marks		Duration of Examination
				Min	Max	
CSE/2020/017	Linux System Administration	Theory	20	10	20	3 Hours
		Practical	40	40	80	
		Total	60	50	100	

CSE/2020/017 - LINUX SYSTEM ADMINISTRATION**DETAILED SYLLABUS**

UNIT NO	MODULES	NO.OF.HOURS THEORY
I	INTRODUCTION TO LINUX	
1.1	Introduction to Network Operating System and Linux Features	4
1.2	Installing and Configuring Linux in custom mode and using Vm Ware	
1.3	Boot Process and Run levels	
II	WORKING WITH LINUX	
2.1	Linux commands and File management	4
2.2	Editors, Process management	
2.3	Managing Disk Quota and setting Logical Volume manager	
III	ADMINISTRATIVE TASKS	
3.1	User administration-Creating users, Permissions setting and modification	4
3.2	Scheduling tasks using 'at'and 'crontab' –Backup using 'dump'	
IV	SHELL SCRIPTS	
4.1	Shell Script basics-Conditionals, Looping, Redirection, Piping	4
4.2	Shell scripts for administrative tasks	
V	SERVER CONFIGURATIONS	
5.1	Configuring Domain Name Server	4
5.2	Configuring Apache Web Server	
Total Theory Hours		20
Total Practical Hours		40
Total Hours		60

PRACTICAL (40 HOURS)

1. Installing Linux in Custom mode
2. Installing Linux using VmWare
3. Basic Commands in Linux
4. File management tasks in Linux.
5. Working with File editors.
6. Modifying File permissions using 'chmod'.
7. Implementation of Disk Quota in Linux.
8. User Administrative tasks in Linux.
9. Scheduling using 'at' and 'crontab'.
10. Backup using 'dump'.
11. Creating shell scripts for administrative tasks.
12. Configuring Domain Name Server.
13. Configuring Apache Web Server.

HARDWARE REQUIREMENT

S.NO	LIST OF TOOLS /EQUIPMENTS
1	COMPUTER
2	PRINTER

SOFTWARE REQUIREMENT

S.NO	LIST OF SOFTWARE
1	LINUX OPEN SOURCE SOFTWARE

REFERENCE BOOKS

S.NO	NAME OF THE BOOK	AUTHOR	PUBLISHER
1	Using and Administering Linux Volume 1	David Both	Apress, Dec 2019
2	Using and Administering Linux Volume 2	David Both	Apress, Dec 2019

ASSESSMENT AND CERTIFICATION

S.No	Criteria for assessment
1.	A trainee will be assessed based on the performance in End Examination for Theory and Practical conducted internally in the Project Polytechnic College for a duration of 3 hours
2.	A trainee must have 75% of attendance to appear for End examination in Theory and Practical.
3.	The assessment for theory part will be based on the marks scored in the end examination on the knowledge bank of questions (1 word/objective type questions)
4.	The assessment for practical part will be based on the marks scored in the end examination conducted by the Project Polytechnic and assessed by the Examiners approved by Strategic Plan Implementation Committee (SPIC) of the project polytechnic.
5.	The criteria for successful completion of training is every trainee should score 50% of marks in theory and practical examination.
6.	On successful completion of training , Certificate will be issued to the participants by the Directorate of Technical Education through the Project Polytechnic.

END EXAMINATION

ALLOCATION OF MARKS

S.No	Description	Max.Marks
1.	Theory Examination	20
2.	Practical Examination	
	a)Procedure	10
	b)Execution	30
	c)Output	20
	d)Record	20
Total Marks		100

THEORY MODEL QUESTION PAPER

CSE/2020/017 – LINUX SYSTEM ADMINISTRATION

(Maximum Marks : 20)

(N.B: Answer any **twenty** questions)

20 x 1 = 20 Marks

1. State any two features of Linux.
2. What is NOS?
3. What is swap partition?
4. What is custom mode installation?
5. What is boot partition?
6. Name the run levels in Linux.
7. What is the output of the command “head -5 filename”?
8. What is the use of ‘chmod’ command?
9. Write any two File management commands
10. What is Disk quota?
11. What is the command used to create a user ‘x’ in group ‘y’?
12. What is use of ‘passwd’ command?
13. Write any two examples for ‘at’ command.
14. Name any two scheduling commands.
15. What is the use of ‘dump’ command?
16. Write any two examples for ‘crontab’ command.
17. What is forward mapping in DNS?
18. What is Virtual host in Web service?
19. What is ‘SOA’ in DNS?
20. What is caching in web service?
21. What is shell script?
22. What command is used to setup looping in shell script?
23. Name any two conditional jumping statements in shell.
24. What is piping?
25. What is redirection?