NETWORKING & SYSTEM ADMINISTRATION LAB

(20MCA136)

LAB RECORD

Submitted in partial fulfilment of the requirements for the award of the degree of Master of Computer Applications of A P J Abdul Kalam Technological University, Kerala.

Submitted by:

SREYAS SATHEESH (SJC23MCA-2053)

MASTER OF COMPUTER APPLICATIONS

ST. JOSEPH'S COLLEGE OF ENGINEERING AND TECHNOLOGY, PALAI

CHOONDACHERRY P.O, KOTTAYAM

KERALA

May 2024

ST. JOSEPH' S COLLEGE OF ENGINEERING AND TECHNOLOGY, PALAI

(An ISO 9001: 2015 Certified College)

CHOONDACHERRY P.O, KOTTAYAM, KERALA

CERTIFICATE

This is to certify that the Networking & System Administration Lab Record (20MCA136) submitted by **Sreyas Satheesh**, a student of **Second** semester **MCA** at **ST. JOSEPH'S COLLEGE OF ENGINEERING AND TECHNOLOGY, PALAI** in partial fulfilment for the award of Master of Computer Applications is a bonafide record of the lab work carried out by him under our guidance and supervision. This record in any form has not been submitted to any other University or Institute for any purpose.

Dr. Rahul Shajan
Associate Professor
(Head, Department of Computer Application**)**

Mr. Anish Augustine K
Assistant Professor,
Dept. of Computer Application
(Faculty In-Charge)

Submitted for the End Semester Examination held on _____

Examiner 1 **Examiner 2**

DECLARATION

I Sreyas Satheesh, do hereby declare that the Networking & System Administration Lab Record (20MCA136) is a record of work carried out under the guidance of Mr. Anish Augustine K, Asst. Professor, Department of Computer Applications, SJCET, Palai as per the requirement of the curriculum of Master of Computer Applications Programme of A.P.J Abdul Kalam Technology University, Thiruvananthapuram. Further, I also declare that this record has not been submitted, full or part thereof, in any University / Institution for the award of any Degree / Diploma.

Place: Choondacherry SREYAS SATHEESH

Date : (SJC23MCA-2053)

DEPARTMENT OF COMPUTER APPLICATIONS

VISION

To emerge as a center of excellence in the field of computer education with distinct identity and quality in all areas of its activities and develop a new generation of computer professionals with proper leadership, commitment and moral values.

MISSION

- Provide quality education in Computer Applications and bridge the gap between the academia and industry.
- Promoting innovation research and leadership in areas relevant to the socio-economic progress of the country.
- Develop intellectual curiosity and a commitment to lifelong learning in students, with societal and environmental concerns.

COURSE OUTCOMES:

After the completion of the course 20MCA136 Networking & System Administration Lab the student will be able to:

CO 1	Install and configure common operating systems.	K3 (Apply)
CO 2	Perform system administration tasks.	K3 (Apply)
CO 3	Install and manage servers for web applications.	K2 (Understand)
CO 4	Write shell scripts required for system administration.	K3 (Apply)
CO 5	Acquire skill sets required for a DevOps.	K3 (Apply)

CONTENT

Sl. No.	Program List	Page No.	Date
1	Introduction to Computer hardware	1	07-02-2024
2	Install latest version of Ubuntu on a virtual box	6	14-02-2024
3	Study of a terminal based text editor such as Vim or Gedit, Basic Linux commands: - familiarity with following commands/operations expected	20	21-02-2024
4	Shell scripting	29	28-02-2024
4.1	Shell program to check the given number and its reverse are same.	32	06-03-2024
4.2	Shell program to find the sum of odd and even numbers from a set of numbers	34	06-03-2024
4.3	Shell program to find the roots of a quadratic equation	35	07-03-2024
4.4	Shell program to generate prime numbers between 1 and 50	38	07-03-2024
4.5	Shell program to find the sum of digits of a number using function	46	13-03-2024
4.6	Shell program to print the reverse of a number using function	47	13-03-2024
4.7	Shell script, which receives two filenames as arguments. It checks whether the two files contents are same or not. If they are same then second file is deleted.	50	14-03-2024
4.8	Shell script to check executable rights for all files in the current directory, if a file does not have the execute permission then make it executable	52	14-03-2024
4.9	Shell program to create Pascal’s triangle	55	20-03-2024
4.10	Shell script to find out the unique words in a file and also count the occurrence of each of these words	58	20-03-2024

5	File system hierarchy in a common Linux distribution	63	21-03-2024
6	Installation and configuration of LAMP stack. Deploy in an open-source application such as phpMyAdmin and WordPress.	68	27-03-2024
7	Build and install software from source code, familiarity with make and cmake utilities expected	74	03-04-2024
8	Introduction to command line tools for networking IPv4 networking, network commands	76	11-04-2024
9	Analyzing network packet stream using tcpdump and Wireshark	79	17-04-2024
10	Introduction to Hypervisors and VMs, Xen or KVM Introduction to Containers: Docker, installation and deployment	81	24-04-2024
11	Installing and configuring modern frameworks like Laravel	85	02-05-2024
12	Ansible play book deployment	86	02-05-2024