


Name:	 UPES <small>UNIVERSITY WITH A PURPOSE</small>
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, Dec 2021

Course: Advanced Linux and Kernel Programming
Program: B. Tech. CS+OSS
Course Code: CSOS 3006

Semester: V
Time 03 hrs.
Max. Marks: 100

SECTION A

- 1. Each Question will carry 4 Marks**
- 2. Instruction: Complete the statement / Select the correct answer(s)**

S. No.	Question	CO
Q1	During installation Linux creates a swap space partition. Why do we need this and how is it different from a Windows swap file?	CO1
Q2	Explain the following command:- chmod b) diff c) man d) touch	CO2
Q3	Explain how to kill a program that has locked up?	CO2
Q4	Justify the statement “Linux file system is more secure than windows”.	CO3
Q5	Explain the role of Linux administrator in brief.	CO4

SECTION B

- 1. Each question will carry 10 marks**
- 2. Instruction: Write short / brief notes**

Q 6	Explain various components of Linux kernel sub-system.	CO1
Q 7	Explain the steps of POSIX standards for read, write and create operations on a file.	CO2
Q 8	Explain the role of pipe for message passing within single process and between multi-processes.	CO3
Q 9	Develop solution for concurrent server using TCP protocol. OR Develop solution to get service by port number and protocol.	CO4

Section C

- 1. Each Question carries 20 Marks.**
- 2. Instruction: Write long answer.**

Q10	Explain various permissions used for files and directories in Linux? How can you change the permissions using chmod. chgrp. chown commands? (5+5+5+5 = 20) OR Explain the following networking tools in brief: (a) ping (b) nslookup (c) telnet (d) arp (5+5+5+5 = 20)	CO4
Q11	Explain the concept of deadlocks with a neat and clean diagram. Explain in detail the channels used in Linux. (12+8)	CO2