Name: Enrolment No:	UPES UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
Online End Semester Examination, Dec 2020

Course: Advanced Linux and Kernel Programming **Semester: V**
Program: B. Tech. CS+OSS **Time 03 hrs.**
Course Code: CSOS 3006 **Max. Marks: 100**

SECTION A

1. **Each Question will carry 5 Marks**
2. **Instruction: Complete the statement / Select the correct answer(s)**

S. No.	**Question**	**CO**
Q 1	In Linux operating system, Kernel modules a). Requires reboot of server while installation and removable of modules b). Reboot of server not required, while module installation and removable of module c). Module support relevant operations d). Both B and C	**CO1**
Q2	The purpose of disk partitions is to a). Provide multi-user data access b). To create file systems c). To specify required operating system type d). All of above.	**CO2**
Q3	Process is identified by _____ whereas process owner is identified by _____	**CO3**
Q4	_____and _____are used to protect data/message.	**CO3**
Q5	Acknowledgements and flow control is provided in. a). TCP protocol b). Data link protocol c). FTP protocol d). All of above	**CO4**
Q6	_____is used to find modules dependencies.	**CO4**

SECTION B

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

Q 7	Explain various components of Linux kernel sub-system.	**CO1**
Q 8	Explain the steps of POSIX standards for read, write and create operations on a file.	**CO2**
Q 9	Write code to extract system name, node name, release, version, machine and domain using ***uts*** namespace.	**CO3**

Q 10	Explain the role of pipe for message passing within single process and between multi-processes.	**CO3**
Q 11	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.**		
Q12	List the 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**