UPES
UNIVERSITY OF TOMORROW

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2022

Course : Shell Programming **Semester: V**
Program: BCA **Time : 03 hrs.**
Course Code: CSBC 3011 **Max. Marks: 100**
Instructions:
All the questions are compulsory.
Write down the Serial Number of the question before attempting it.

	SECTION A		
S. No.		**Marks**	
Q 1	Abbreviate the following grep, egrep, awk, sed, cd, wc, ls and chmod.	4	**CO1**
Q2	List the various types of Shell.	4	**CO2**
Q3	Consider the marks.txt is a file that contains one record per line(comma separate fields) of the student data in the form of studentid, student name, language marks, English marks, Maths Marks, Science marks, Social Marks. Write an awk script to generate result for every students in the form of studentid, studentname, Total Marks and result. Result is PASS if marks is >=35 in all subjects. Result is fail otherwise.	4	**CO2**
Q4	State the command to see/list all the running processes? Also, give the various fields listed in the command output.	4	**CO3**
Q5	List the various command to see the memory usage of the system.	4	**CO4**
	SECTION B		
Q 6	Write a shell script that computes the gross salary of an employee according to the following rules. Also, write the steps to create the script and execute it. • Input basic salary of an employee • Calculate and output Gross Salary = Basic + HRA + DA • If basic salary is >25000 then HRA =Rs.6000 and DA=12% of the basic. • If basic salary is <=25000 then HRA =Rs.4000 and DA=12% of the basic.	10	**CO1**
Q 7	Discuss the various Control Structures in AWK with the syntax and suitable examples.	10	**CO1**
Q 8	Discuss and explain the shell process commands fg, bg, renice, free command with suitable examples.	10	**CO3**
Q 9	a) Write the command to store any five lines of data in text1.txt. b) Write the command to sort the file and save in sorted_text.txt c) Write the command to store only first 3 lines into demo1.txt	10	**CO3**

	d) Write the command to append the remaining two lines also in demo1.txt e) Write the command to print the number of lines in all the files with *.txt extension and store in NoOfLines.txt in a sorted way as per the number of lines. **OR** Explain the syntax GREP and its options –i, -v, -n, -c with suitable examples.		

<div align="center">**SECTION-C**</div>

Q10	a) Discuss the use of regular expression in Bash and also explain any 5 symbols in the RE with suitable examples. (10 Marks)
	b) Write a shell script to get 5 marks in an array with prompting the user in read statement, find the total and average, and print it. (10 Marks)
	 OR
	a) Describe the various looping structures in bash with its syntax and illustrate its working with flowchart and example.(10 Marks).
	b) Assume sample.txt as the file. Identify the commands to achieve the below tasks.(10 Marks)
	
	``
	└$ cat sample.txt
	200~Amelia 555-5553 amelia.zodiacusque@gmail.com F
	Anthony 555-3412 anthony.asserturo@hotmail.com A
	Becky 555-7685 becky.algebrarum@gmail.com A
	Bill 555-1675 bill.drowning@hotmail.com A
	Broderick 555-0542 broderick.aliquotiens@yahoo.com R
	Camilla 555-2912 camilla.infusarum@skynet.be R
	Fabius 555-1234 fabius.undevicesimus@ucb.edu F
	Julie 555-6699 julie.perscrutabor@skeeve.com F
	Martin 555-6480 martin.codicibus@hotmail.com A
	Samuel 555-3430 samuel.lanceolis@shu.edu A
	Jean-Paul 555-2127 jeanpaul.campanorum@nyu.edu R
	``
	
	   i. Print all the names with Value=R in 4th Column.
	   ii. Print the Users who have gmail ID's.
	   iii. Print the last 4 records.
	   iv. Print all the records displayed with the line numbers.
	   v. Print the records who's name has 3/4 characters in them.
		20	**CO2**

Q11	a) Identify the command used in shell scripts to parse arguments passed to them.(2 Marks) b) Discuss with suitable examples for program with the command line arguments containing options like –a,-b to parse it. (8 Marks) c) Write a program to remove all the given type of files created in a specific folder on a particular month. For example this command will delete all the txt files created in the month of November. ./mylibdelete –f txt –d Nov (10 Marks)	**20**	**CO4**