NATIONAL FORENSIC SCIENCES UNIVERSITY
M.Sc. Digital Forensics and Information Security
Semester – I – December - 2024

Subject Code: CTMSDFIS S1 P4   **Date: 09/12/2024**
Subject Name: Python And Scripting
Time: 02:30 PM to 05:30 PM   **Total Marks: 100**

Instructions:
1. Write down each question on a separate page.
2. Attempt all questions.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks.

		Marks
Q.1	**Attempt any three.**	
(a)	What do you mean by links in Linux? Briefly explain its types and differentiate them.	08
(b)	Explain File and user Permissions in bash with suitable examples. Also writes the bash commands used for permissions.	08
(c)	Explain Linux directory structure in detail.	08
(d)	Write a short note on the following commands and operator: a) ls, b) pwd, c) ln, d) vi, e) grep, f) >>	08
Q.2	**Attempt any three.**	
(a)	Explain following networking commands – (i) ping, (ii) netstat, (iii) wget, (iv) traceroute (v) ifconfig (vi) ssh	08
(b)	Explain the loop statements used in bash scripting with suitable examples.	08
(c)	Explain different types of i/o redirects and expansion in bash shell with proper syntax and suitable example	08
(d)	Write an interactive script in python to sum natural number up to n using while loop in python	08
Q.3	**Attempt any three.**	
(a)	Write a python script to read text from file1 and file2 and write the content into file3.	08
(b)	What do you mean by regular expressions? Explain the sequence and meta characters used in python. searching & matching	08
(c)	Explain following statements with examples in Python: break, continue, pass, return	08
(d)	Write a python program to calculate the factorial of a positive number.	08

Q.4   **Attempt any two.**

   (a) What are the exceptions? Explain the try, except, else and finally in exception handling.   **07**

   (b) A list defined in python contains integer values ranging from 0 to 9 (both are included). Write a python program to find the number of occurrences of each number in the list. For example, in list [1, 4, 3, 2, 2,1, 5, 9, 1........] numbers 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 are occurring 0, 3, 2, 1, 1, 1, 0, 0, 0, 1 times, respectively.   **07**

   (c) What is module in python? Explain any five methods of system module in python.   **07**

Q.5   **Attempt any two.**

   (a) Explain the various conditional statements in PowerShell with example.   **07**

   (b) What is PowerShell? Write advantages and disadvantages of PowerShell.   **07**

   (c) Explain comparison operators with example in PowerShell.   **07**

--- **End of Paper**---

$$4 \times 7 = 28$$
$$-\frac{11}{39}$$

National Forensics Sciences University, Goa Campus
Mid- semester Examination

Programme – M.Sc. D.F.I.S.

Sem – 1

Date- 08/10/2024

Subject Name: Python and Scripting   Subject Code- CTMSDFIS SI P4

Duration- 1.5 Hours

Max. Marks- 50

Instructions - 1) Answer all questions. 2) Assume suitable data.

Q.1	Answer any four questions.	20 marks
	a. Explain the following files in linux: boot, dev, lib, media, mnt.	5 marks
	b. Explain the following: Hub, Router, Switch	5 marks
	c. What are the challenges in implementing IPv6	5 marks
	d. What are I/O redirection commands. Briefly describe five of them.	5 marks
	e. Explain the following commands: (i) wc, (ii) grep, (iii) tee	5 marks
Q.2	Attempt all	15 marks
	a. Explain different data types in python with suitable example	5 marks
	b. Write a python program which takes input string and prints its characters in different lines two characters per line	5marks
	c. Write a program that prompts the user to enter their marks percentage in exam and prints the corresponding grade. The program should use the following grade: 0-40: F, 41-50: D, 51-60: C, 61-70: B, 71-80: A, 81-90: A+, 91-100: A++,	5 marks
Q. 3	Attempt a and b	15 marks
Q.3 a	Attempt any one	
Q.3 a	I. Describe the importance of python including 8 primary features	8 marks
	OR	
	II. Explain the following in brief with examples in the context of python language a. Comparison operators ==, !=, <=, >=, >, < b. Logical operators and or not c. Identity operators is isnot d. Membership operators in not in	8 marks
Q.3 a	Attempt any one	
Q3 b	I. Explain for loop and while loop with the help of examples..	7 marks
	OR	
	II. What is branching in Python. Explain with two examples.	7 marks

Program – M.Sc. Digital forensic and information security

Sem – I

Date - 10-09-2024

Subject Name – Python and Scripting

Subject Code - CTMSDFIS SI P4

Time- 11:00 A.M. to 11:45 A.M.

Max. Marks- 25

Instructions - 1) Answer all questions. 2) Assume suitable data.

Q.1	Multiple Choice Questions (1 mark each)	10 marks
	i. chmod command is used for: a. change the file ownership b. Change the file mode	1 mark
	ii. Ln command is used for: a. To create a hard link. b. To create a soft link e. both	1 mark
	iii. passwd command is used for: a. change the user's password. b. Bypass the user's password c. Retrieve the user's password d. all	1 mark
	iv. tail command is used for: a. Execute a command as another user. b. Output the last part of the file. c. Output the middle part of the file d. Output the first part of the file	1 mark
	v. wc command is used for: a. Report or omit repeated lines. b. Print new line, word, and byte counts for each file. c. Execute a command without copy	1 mark
	vi. grep command is used for: a. output matching the first part of the line b. print lines matching a pattern c. None of the above	1 mark
	vii. tee command is use for a. Read from standard input and write to standard output and files. b. Read from user input and write to user output and files. c. None of the above	1 mark

	viii.	uniq command is used for:
		  a. Execute a unique command
		  b. Execute a command without copy
		  e. Report or omit repeated lines
		  d. None of the above
			1 mark

	ix.	apropos command is used for
		  a. Display a command's manual page.
		  b. Display a list of appropriate commands
		  c. None
			1 mark

	x.	What is command is used for:
		  a. Display a command's info entry
		  b. Display a very brief description of a command
		  c. both
			1 mark

Q.2		Answer any 3 questions (3x5 marks each)	15 Marks
	i.	Discuss the shell in Linux. Why it is useful?	5 marks
	ii.	Explain the different types of files in Linux.	5 marks
	iii.	Describe the difference between hard links and soft links.	5 marks
	iv.	What is permission? Explain different types of permission with the help of example	5 marks