

**B.Sc. Semester-III Examination, 2022-23****COMPUTER SCIENCE [Honours]**

Course ID : 31515

Course Code : SH/CSC/305/SEC-1

**Course Title : Programming in Python – Theory****OR****Unix / Linux Programming – Theory**

Time : 1 Hour 15 Minutes

Full Marks : 25

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*Answer **all** the questions.**(Programming in Python – Theory)****UNIT-I**1. Answer any **five** of the following questions:

1×5=5

- What is the full form of IDLE?
- Who develop python?
- What is interpreter? Give example of interpreters.
- What is algorithm?
- What is None in python?
- Differentiate between mutable and immutable object in python?

*[Turn Over]*

- What is the purpose of continue statement in python?
- Mention two python logical operators in and its purpose?

**UNIT-II**2. Answer any **two** of the following questions :

5×2=10

- Explain difference between keyword and variable in python. What are naming conventions of variable in python?
- Draw the flowchart to check whether a given number is Armstrong or not.
- Write a python program that read two numbers and an arithmetic operator and display the result.
- Explain membership operators and Identity operators in python with example.

**UNIT-III**3. Answer any **one** of the following questions :

10×1=10

- Explain different data types used in python.
- Write Python program to check whether a given number is the Fibonacci number or not. Explain recursive function with example.

**(Unix / Linux Programming – Theory)**

**UNIT-I**

1. Answer any **five** of the following questions:

1×5=5

- a) What is Operating system?
- b) What is the use of fork() function?
- c) Name different linux Shell.
- d) Define inter process communication.
- e) Mention some linux/unix Operating system.
- f) What is the purpose of 'cal' and 'cat' command in linux shell?
- g) What is the command to give execute permissions to a file in linux shell?
- h) What is the different file systems used in Linux?

**UNIT-II**

2. Answer any **two** of the following questions :

5×2=10

- a) Differentiate between shell variables and environment variables and user defined variables.
- b) Explain the following commands with syntax, options and examples: (i) head (ii) tail.

- c) Explain briefly different shells used in different Linux operating systems.
- d) Why Linux considered as more secured than other OS.

**UNIT-III**

3. Answer any **one** of the following questions :

10×1=10

- a) Explain Briefly different linux File system.
- b) Write a shell script to check whether a given year is leap year or not. Write a shell program to find prime factors of a given number.

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