24U102 (Pages: 2) Name: .....

Reg.No: .....

FIRST SEMESTER B.Voc. DEGREE EXAMINATION, NOVEMBER 2024

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC21U SDC1 PP02 - PYTHON PROGRAMMING

(Information Technology)

(2021 Admission onwards)

Time : 2.5 Hours Maximum : 80 Marks

Credit : 4

Part A (Short answer questions)

Answer ***all*** questions. Each question carries 2 marks.

1. List three characteristics of computers that make them reliable for everyday tasks.
2. Summarize the features of an operating system.
3. Describe a scenario where an interpreter would be more useful than a compiler.
4. Explain the importance of problem analysis before starting program design.
5. Define Python as a programming language.
6. Differentiate between data types in Python (e.g., int, float, str).
7. Construct a Boolean expression using logical operators in a control structure.
8. Demonstrate how to iterate over a list using a for loop.
9. Identify the steps required to call a function in Python.
10. List at least three built-in mathematical functions in Python and their purposes.
11. Illustrate how string manipulation can solve real-world problems (e.g., checking for palindromes).
12. Explain the purpose of exception handling in Python with an example.
13. Define the term "class" in the context of Object-Oriented Programming (OOP).
14. Write a simple example to demonstrate classes and objects.
15. Analyze the best practices for performing CRUD operations in a Python application using MySQL.

(Ceiling: 25 Marks)

Part B (Paragraph questions)

Answer ***all*** questions. Each question carries 5 marks.

16. Analyze the role of system software (like operating systems) in managing hardware resources.
17. Design a flowchart to display smallest number among two numbers.

18. Explain the importance of operator precedence in Python with examples. Why is it crucial for a programmer to understand these concepts?

19. Compare different string methods and functions, such as find(), replace(), and split(), and demonstrate their usage in real-world scenarios.

20. Examine the benefits and challenges of function composition, and apply it to solve a complex task by combining multiple smaller functions.

21. Demonstrate how to manage directories in Python by creating, renaming, and deleting directories through code.

22. Describe the methods or functions used in JSON explain with suitable codes.

23. Analyze the role of lambda functions in enhancing code readability and conciseness. Compare this with traditional function definitions.

(Ceiling: 35 Marks)

Part C (Essay questions)

Answer any ***two*** questions. Each question carries 10 marks.

24. Explain the roles of the Central Processing Unit (CPU), memory (primary and secondary), and input/output devices in the operation of a computer system. Discuss how these components interact to perform tasks.

25. Examine the role of conditional statements in Python, and propose a solution for a scenario where nested conditional statements could be used to implement complex decision-making logic.

26. Analyze the properties of tuples with the help of a simple program

27. Explain the role of Python modules and libraries in software development.

(2 × 10 = 20 Marks)

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