24U3106 (Pages: 2) Name : .....

Reg. No : .....

THIRD SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2025

(FYUGP)

CC24UCSC3MN201 - PYTHON PROGRAMMING FOR SCIENCE

(Computer Science - Minor Course)

(2024 Admission - Regular)

Time: 2.0 Hours Maximum: 70 Marks

Credit: 4

Part A (Short answer questions)

Answer ***all*** questions. Each question carries 3 marks.

1. Explain the purpose of the import statement in Python. [Level:2] [CO1]
2. Explain how the print() function works in Python. [Level:2] [CO1]
3. Explain what keywords are in Python and give two examples. [Level:2] [CO1]
4. Provide an example illustrating what specific condition ensures a for loop doesn't run indefinitely. [Level:3] [CO2]
5. Construct a Python program that calculates the intersection of two sets,{1, 2, 3} and {2, 3, 4}. [Level:4] [CO3]
6. Inspect with an example how can you remove a key-value pair from a dictionary? [Level:4] [CO3]
7. Implement a Python function called calculate_area that takes the radius of a circle as a parameter and returns its area. [Level:3] [CO4]
8. Demonstrate the difference between the random.uniform(a, b) differs from random.randint(a, b). What types of numbers do they return? [Level:3] [CO4]
9. Provide the difference between parameters and arguments in the context of a function call. [Level:3] [CO4]
10. Determine the purpose of the datetime.now() function in Python. [Level:3] [CO4]

(Ceiling: 24 Marks)

Part B (Paragraph questions/Problem)

Answer ***all*** questions. Each question carries 6 marks.

11. Explain how operator precedence affects the order of operations in Python expressions? [Level:2] [CO1]

12. Compare different methods to run Python. [Level:2] [CO1]

13. Classify the types of expressions in Python and illustrate how each type is evaluated in an example program? [Level:2] [CO1]

14. Demonstrate the use of the continue statement by creating a program that skips over even numbers in a range and only prints odd numbers. [Level:3] [CO2]

15. Use a nested while loop to print a multiplication table of N numbers. [Level:3] [CO2]

16. Examine string slicing to extract and print the first five characters and the last three characters of a given string. [Level:4] [CO3]

17. Analyse the concept of tuple creation by describing how you would create a tuple with both numbers and strings, and explain why tuples are immutable compared to lists. [Level:4] [CO3]

18. Implement a recursive function to find factorial of a number using recursion. [Level:3] [CO4]

(Ceiling: 36 Marks)

Part C (Essay questions)

Answer any ***one*** question. The question carries 10 marks.

19. Examine the behavior of nested if-else statements versus using elif with suitable program. [Level:3] [CO2]

20. Analyse the effects of list slicing using suitable program. [Level:4] [CO3]

(1 × 10 = 10 Marks)

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