

# CBCS SCHEME

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18BT36

## Third Semester B.E. Degree Examination, Dec.2023/Jan.2024 Python Programming

Time: 3 hrs.

Max. Marks: 100

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

### Module-1

- 1 a. Discuss briefly about algorithmic problem solving technique. (04 Marks)  
b. Write an algorithm to insert a card in a list of sorted cards. (08 Marks)  
c. Explain in detail about building blocks of algorithm. (08 Marks)

OR

- 2 a. Define flowchart. Discuss the symbols and rules for drawing flowchart with the example. (06 Marks)  
b. Write the pseudocode for Towers of Hanoi. (06 Marks)  
c. Write an algorithm to find the minimum number in a list. (08 Marks)

### Module-2

- 3 a. Explain in detail about various data types in python with an example each. (15 Marks)  
b. What is a keyword? List the keywords used in python program. (05 Marks)

OR

- 4 a. Define function. Briefly discuss about function definition, function call and flow of execution. (08 Marks)  
b. Describe about the concept of precedence and associativity of operators with examples. (08 Marks)  
c. Give a detailed note on python interpreter and interactive mode of operation. (04 Marks)

### Module-3

- 5 a. Analyze with a program to find out the distance between two points. (06 Marks)  
b. Explain conditional statements in detail with example. (14 Marks)

OR

- 6 a. Explain in detail about iterations with example. (16 Marks)  
b. Discuss about string slicing and string immutability. (04 Marks)

### Module-4

- 7 a. Write a python program to search an element in a sorted array using binary search. (10 Marks)  
b. Illustrate a program to find GCD of two numbers. (06 Marks)  
c. Explain recursion in python with an example program. (04 Marks)

OR

- 8 a. Write a python program for linear search using function. (08 Marks)  
b. Describe the algorithm and python program to find exponentiation of given number. (08 Marks)  
c. Mention any four list methods with its description. (04 Marks)

**Module-5**

- 9 a. Create a python program to perform insertion sort. (10 Marks)  
b. "Tuples are immutable". Explain with an example. (05 Marks)  
c. Explain operations and methods in dictionaries. (05 Marks)

OR

- 10 a. Illustrate list comprehension with example. (04 Marks)  
b. Discuss about tuple assignment. (04 Marks)  
c. Perform merge sort on a given list of elements. (12 Marks)

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