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18BT36

Third Semester B.E. Degree Examination, Feb./Mar. 2022
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. Explain with an example about the building blocks of an algorithm. (07 Marks)
- b. Draw a flowchart to print the first 'n' prime numbers. (07 Marks)
- c. Explain the salient features of algorithm and flowchart. (06 Marks)

OR

- 2 a. Outline the Towers of Hanoi problem with relevant diagrams and describe the algorithm of towers of Hanoi problem. (10 Marks)
- b. Write an algorithm to find the minimum number in a list. (06 Marks)
- c. Discuss the symbols and rules for drawing flowchart with the example. (04 Marks)

Module-2

- 3 a. Summarize the precedence of mathematical operators in Python. (06 Marks)
- b. Detail the differences between compiler and interpreter. Explain how python works in interactive mode and script mode with an example. (06 Marks)
- c. Explain the various data types in Python with examples. (08 Marks)

OR

- 4 a. Explain the syntax and structure of user defined functions in python with examples. Also discuss about parameter passing in functions. (10 Marks)
- b. Write a python program to calculate the area of square, rectangle. Print the results and take input from user. (05 Marks)
- c. Write a python function to swap the value of two variables. (05 Marks)

Module-3

- 5 a. List the three types of conditional statements and explain them. (10 Marks)
- b. Analyze string slicing. Illustrate how it is done in python with example. (05 Marks)
- c. Write a python program to accept a sentence from the user and display the longest word of that sentence. (05 Marks)

OR

- 6 a. Explain with an example while loop, break and continue statement in python. (10 Marks)
- b. Write a python program to find the factorial of a given number without recursion. (05 Marks)
- c. Analyze with a program to find out the distance between two points. (05 Marks)

Module-4

- 7 a. Discuss recursion in python with an example. (04 Marks)
- b. Illustrate a program to sum an array of numbers. (06 Marks)
- c. Write a python program to perform linear search on a list. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

OR

- 8 a. Write a python code to perform binary search. Trace it with an example of your choice. (10 Marks)
b. Mention any four list methods with its description. (04 Marks)
c. Write a python program to find square root of a number. (06 Marks)

Module-5

- 9 a. Write a python code to sort 'n' numbers using selection sort. (10 Marks)
b. Tuples are immutable. Explain it with example. (06 Marks)
c. Illustrate list comprehension with examples. (04 Marks)

OR

- 10 a. Demonstrate with code the various operations that can be performed on dictionaries. (10 Marks)
b. Outline the algorithm and write a python program to sort the numbers using merge sort in ascending order. (10 Marks)
