Exam. Code : 208601
Subject Code : 4708

M.Sc. Information Technology 1ˢᵗ Semester
COMPUTATIONAL PROBLEM SOLVING USING PYTHON
Paper–MIT–105

Time Allowed—3 Hours]　　　[Maximum Marks—100

Note :— There are four sections, each having **two** questions, attempt any **five** questions, selecting at least **one** question from each Section. All questions carry equal marks.

SECTION–A

1. What do you mean by computational problem ? What is process of computational problem solving ? Explain Python's problem solving capabilities.

2. (a) What is difference between variable, identifier, keyword, literal and operator ? What is an expression ? Give examples of each.

   (b) Which are different data types available in Python ?

SECTION–B

3. (a) Which are different types of conditional constructs available in Python ? Give example of each.

   (b) Write a recursive function to check whether a given number is prime or not ?

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4. (a) Explain list data type. How it differs from a string, tuple and dictionary ? Explain various list methods.

   (b) Write a program in Python to find and print largest string in a list of strings.

SECTION–C

5. (a) How a user-defined function is created in Python ? How a function can be passed default arguments ? Write a function to check and return a given number is Palindrome or not.

   (b) What are anonymous functions ? What is their significance in Python ?

6. What is meaning of Modular design ? What is top-down design ? Name some popular modules and their functions available in Python.

SECTION–D

7. Which are differences between iteration and recursion ?

8. Write a program to get a list of strings from user and write them to a text file.