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BCA/B.Sc. (IT)   (Sem.–3)
PROGRAMMING IN PYTHON
Subject Code : UGCA-1914
M.Code : 78180
Date of Examination : 21-12-2022

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :
1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.**

SECTION-A

1. **Write briefly :**

    a) Describe unary operator in brief.

    b) What are infinite loops? What is the use of range() function in for loop?

    c) Write a program in Python to find the length of the hypotenuse of a right angled triangle. Take the base and the height as input.

    d) Write a program that uses a for loop to print the numbers 11,14, 17, 20,..., 83, 86, 89.

    e) What are python packages? How are they imported?

    f) Differentiate between a tuple and a set.

    g) With the help of an example describe how a class is Created in Python.

    h) What are the different methods (modes) for opening a file in Python?

    i) What are anonymous functions? How are they used?

    j) How are strings concatenated in Python? Give example.

SECTION - B

2. What is an exception? Illustrate the use of exception handling by writing a function named readposint that uses the input dialog to prompt the user for a positive integer and then checks the input to confirm that it meets the requirements. It should be able to handle inputs that cannot be converted to int, as well as negative ints, and edge cases (e.g. when the user closes the dialog, or does not enter anything at all.)

3. Explain the process of opening, reading and writing files in Python. You .are given a file called class_scores.txt, where each line of the file contains a one-word usemame and a test score separated by-spaces, like below:

   GWashington 83

   JAdams 86   .

   Write code that scans through the file, adds 5 points to each test score", and outputs the usernames and new test scores to a new file, scores2.txt.

4. Write a detailed note on the four collection data types in the Python programming language: list, tuple, set and dictionary. Write about their features and usage.

5. What is a module? How are modules created and used in Python? List some standard Python modules.

6. What are the various types of operators available in Python? Write a program that generates a random decimal number between 1 and 10 with two decimal places of accuracy. Examples are 1.23, 3.45, 9.80, and 5.00.

7. Explain various mechanisms of passing arguments to functions in Python. Discuss the behaviour of recursive functions with the help of example.

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.