Please check that this question paper contains_____ questions and _____ printed pages within first ten minutes.

[Total No. of Questions: 09] [Total No. of Pages: 2]
Uni. Roll No. .....

Program: B.Tech. (Batch 2018 onward)
Semester: 4
Name of Subject: Python Programming
Subject Code: PCIT-105
Paper ID: 16234

Time Allowed: 03 Hours **Max. Marks: 60**

NOTE:

1) Parts A and B are compulsory
2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
3) Any missing data may be assumed appropriately

Part – A **[Marks: 02 each]**

Q1.

a) What is slicing in Python? Explain with example.
b) Why is the "pass" keyword used for in Python?
c) What are iterators in Python?
d) How do you write comments in python?
e) What is the scope of a variable? Give an example.
f) Why do we use join() function in Python?

Part – B **[Marks: 04 each]**

Q2. What is the difference between list and tuple?

Q3. How are classes created in Python? Explain with coding example.

Q4. Describe the costs and benefits of defining and using a recursive function.

Q5. What is the usage of help() and dir() function in Python? Give progarming example.

Q6. Assume that a file contains integers separated by newlines. Write a code segment that opens the file and prints the average value of the integers.

Q7. Write a program that computes and prints the average of the numbers in a text file. You should make use of two higher-order functions to simplify the design.

P.T.O.

Part – C **[Marks: 12 each]**

Q8. Describe the basic phases of software development : analysis, design, coding, and testing with example.

OR

Explain the Loops and Selection Statements used in Python with coding examples.

Q9. Write a Python program using classes and objects to simulate result preparation system for 20 students. The data available for each student includes: Name, Rollno, and Marks in 3 subjects. The percentage marks and grade are to be calculated from the following information:

Marks Precentage	**Grade**
80 to 100	A
60 to 80	B
45 to 60	C
Less than 45	D

OR

Write a program that allows the user to obtain information about the file system. You must follow the software development process.

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