USN : _____ Course Code : 18CS661

Sixth Semester B.E. Semester End Examination, JUNE_AUGUST_2023

PYTHON PROGRAMMING

Time: 3 hrs. Max. Marks :100

Instructions :1. Answer any FIVE full Questions selecting at least ONE Question from Each Module.

MODULE 1

L CO PO M

1a. Explain the different types of applications you can create with Python. And list the advantages of Python over other programming languages.

[2] [1] [3] [10]

1b. Summarize the rules for naming a variable. And discuss the Python's arithmetic operators with examples.

[2] [1] [3] [10]

OR

2a. Explain the following with examples.

i. if elif
ii. while
iii. for
iv. range

[2] [1] [3] [10]

2b. Demonstrate the use of following functions citing examples:

i. print()
ii. input()
iii. int()
iv. float()
v. str()

[2] [1] [3] [10]

MODULE 2

3a. Define recursion. How is it different from the iteration? Develop a Python program to find the factorial of a given number using recursion.

[3] [1] [3] [10]

3b. Explain the date.today(), datetime.now(), and strptime() functions in detail and list the different format string codes used in strptime function. Develop a Python program to display the current date and current time.

[3] [1] [3] [10]

OR

4a. Compare ordered items and unordered items in Python. Develop a Python program to read a list of n numbers and sort the elements of list without using built-in function.

[3] [1] [3] [10]

4b. What is a tuple? Explain with an example how to create a tuple in Python. Develop a Python program to demonstrate various operations on tuples like.

i. Create a tuple
ii. Access its elements
iii. Unpack tuple
iv. Combine tuples
v. Delete a tuple.

[3] [1] [3] [10]

9b. Explain the following w.r.t. root window by citing examples:

i. Tk
ii. title()
iii. geometry()
iv. mainloop()

[2] [4] [3] [10]

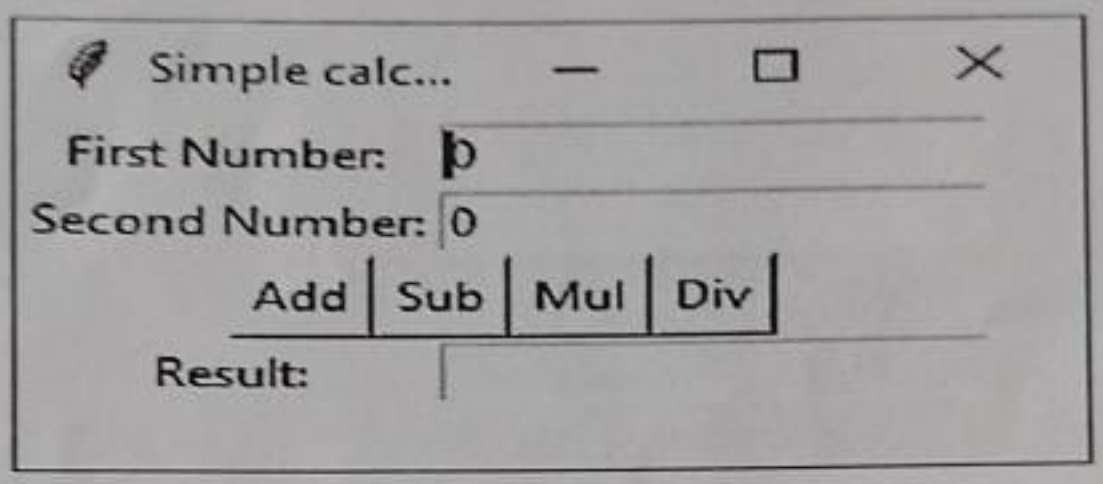
OR

10a. Explain the following terms w.r.t. database operation along with example snippets:

i. insert
ii. delete
iii. update

[2] [4] [3] [10]

10b. Develop a following Python GUI application.



[3] [4] [3, 12] [10]

MODULE 3

5a. Define a text file and binary file. List the sequence of file operations. Explain the different modes of opening a file.

[2] [2] [3] [10]

5b. What is an exception? How does the Python handle it? Explain the try and multiple except blocks by citing an example. And what is the purpose of finally clause in exception handling?

[2] [2] [3] [10]

OR

6a. Develop the Python program to demonstrate the following:

i. How to read a line of string in file to list and write the string items of list to a file.

ii. How to read a line of numbers in file to list and write the numbers from list to a file.

[3] [2] [3] [10]

6b. Develop a menu driven Python program that accepts movies.csv as input and handles various exceptions. The menu shall consist of following items.

i. List – List all the movies.

ii. Add – Add a movie.

iii. Delete – Delete a movie.

iv. Exit.

[3] [2] [3] [10]

MODULE 4

7a. What is a class? How to define class in python? How the class members are accessed? Explain __init__ and __str__ method with an example python program.

[2] [3] [3] [10]

7b. Develop a class called Manager with attributes: name, ID and basic salary. Demonstrate polymorphism by deriving classes HR Manager and Sales Manager from Manager and compute gross salary as per the following:

HR Manager - DA = 75% of basic,
HRA = 25% of basic,
deductions = 5% of basic.
Sales Manager - DA = 70% of basic,
HRA = 15% of basic,
TA = 5% of basic,
deductions = 5% of basic.

[3] [3] [3] [10]

OR

8a. Define inheritance. Explain the same with an example. List the advantages of inheritance.

[2] [3] [3] [10]

8b. What is overriding? Demonstrate overriding, by creating a class called as Shape that models different shapes (e.g., Triangle, Rectangle, Circle, and Square) and calculates their areas.

[3] [3] [3] [10]

MODULE 5

9a. How to connect to a database in Python? Develop a Python program for the following:

i. To select data from single table.

ii. To select data from multiple tables.

[3] [4] [3] [10]