Seat No. 32620

ITM (SLS) BARODA UNIVERSITY, VADODARA

SOCSET- B. Tech – Semester II (Regular & Remedial) – Examination – Summer, 2023

Course Code : C2210C4
Course Name : Programming in Python-II
Time : 10:15 am to 12:15 pm

Date : 08-07-2023
Day : Saturday
Total Marks : 50

Instructions:

1. **All questions are mandatory. There are no external options.**
2. **Make suitable assumptions, wherever necessary, and state them clearly.**
3. **Use of Non-Programmable Calculator is allowed/Not allowed.**
4. **Figures to the right indicate maximum marks.**

Q:1 **Attempt the following Questions.** **(10)**

1. What will be the output of the following code snippet?

```
def func():
  global value
  value = "Local"

value = "Global"
func()
print(value)
```

a. Local b. Global c. None d. Cannot be predicted

2. What will be the output of the following code snippet?

```
numbers = (4, 7, 19, 2, 89, 45, 72, 22)
sorted_numbers = sorted(numbers)
num= [x for x in sorted_numbers if x % 2 != 0]
print(num)
```

a. [7,19,45,89] b. [2,4,22,72] c. [2,4,7,19,22,45,72,89] d. [2,4,22,72]

3. What will be the output of this program?

```
try:
    print(file_name)
except:
    print("error comes in the line")
```

a. file_name b. error
c. error comes in the line d. file_name error comes in the line

4. Write the code which swaps the value in the form of output given:
a=np.array([[1, 2, 3, 4], [5, 6, 7, 8]])

_____

Output:
array([[2, 1, 4],[6, 5, 8]])

5. Write the syntax of displaying the top 6 and bottom 4 lines of any data set using pandas. Ans.....

6. Amongst which of the following shows the types of function calls in Python?
a. can by Value b. can by reference c. both a and b d. none of given

7. Which module in Python supports regular expressions?
a. re b. regex c. pyregex d. None of the above

8. Which method is used to identify a thread?
   a. getName() b. get_ident() c. getThread() d. None

9. The separator character of csv files is called delimiter.

   a. True b. False

10. Which of the following statements is wrong about inheritance?
   a Protected members of a class can be inherited
   b The inheriting class is called a subclass
   c Private members of a class can be inherited and accessed
   d Inheritance is one of the features of OOP

Q:2 **Answer any two out of Four Questions.** **(10)**

1. Differentiate between error and exception. Define any five built-in exception functions used in python.
2. Write a program to resolve the issue of method overriding with super() in python.
3. Write a short note on MRO (Method Resolution Order).
4. Compare series and dataframe in pandas. Also explain the steps to create dataframe in pandas.

Q:3 **Answer any two out of Four Questions.** **(10)**

1. Create a bar plot for the number of students enrolled in each branch of ITM CSE,CSEIT,AI,Cyber,Mech and ECE.
2. Explain any four statistical functions of numpy. Also compare list and numpy.
3. Describe abstract class called Shape which has three subclasses say Triangle,Rectangle,Circle. Define one method area() in the abstract class and override this area() in these three subclasses to calculate for specific object i.e. area() of Triangle subclass should calculate area of triangle etc. Same for Rectangle and Circle
4. Compare black box and white box testing.

Q:4 **Answer any four out of Six Questions.** **(20)**

1. Create a class in python to find Maximum,average and Minimum of marks obtained by students for Engineering Drawing subject (class size : 60) .
2. Write a Python program to check the validity of a password entered by the user. Provide prompt to the use to enter the password. The Password should satisfy the following criteria: 1. Contain at least 1 letter between a and z 2. Contain at least 1 number between 0 and 9 3. Contain at least 1 letter between A and Z 4. Minimum length of password: 6 If password satisfies all above condition, print message "Valid password" else print message "Invalid password".
3. Explain various system level commands available in python.
4. Write a program to read and write a CSV file with dictionary.
5. Illustrate the concept of constructor and destructor in python with suitable example.
6. Write a Python program to demonstrate the concept of multithreading in python.

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