Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA – SEMESTER-III   EXAMINATION –SUMMER-2020

Subject Code:4639304   **Date:07-11-2020**
Subject Name: Programming in Python
Time:10:30 AM to 01:00 PM   **Total Marks: 70**
Instructions:

    1. Attempt all questions.
    2. Make Suitable assumptions wherever necessary.
    3. Figures to the right indicate full marks.

Q.1	**(a)**	**Do as directed.**	**07**

i) What is GIL?
ii) Write a Lambda function to Sum two variable values (x, y).
iii) What is the difference between append() and extend() methods of list.
iv) if x="Python", then the output of print(x[:-1]) will be _____.
v) _____ will run first.py from Python program.
vi) _____ function is used to find IP Address of any web site.
vii) What is the difference between "import os" and "from os import *".

    (b) Say TRUE or FALSE with justification.   07
i) Methods and functions are not same.
ii) Writing a constructor in subclass will override constructor of the super
    class.
iii) Indexing and slicing are useful to access the elements of List and
    dictionary.
iv) While doing exception handling in Python "else" block is executed only if
    no exception is raised.
v) In Python, if x="hiren" and y="hiren here", the output of print(y in x) will be
    "hiren".
vi) List and tuple are mutable sequence objects in python.
vii) "self" is a default variable.

Q.2	**(a)**	Tuple, List and Dictionary are three sequence Data Types of Python. - Which is to be used when ? Justify your answer by giving differences among them.	**07**
	(b)	Explain using suitable example Single Level and Multi level inheritance in python.	**07**

OR

	(b)	Discuss Operator Overloading, Method Overloading and Method Overriding using suitable example.	**07**

Q.3	**(a)**	Explain Formal arguments, Actual Arguments, Positional Arguments, Keyword Arguments and Default Arguments using add()function, which will accept two variables and returns sum.	**07**
	(b)	i) How to handle user defined exceptions?	**04**
		ii) Explain assertion using suitable example.	**03**

OR

Q.3	**(a)**	Explain using suitable example Decorators and Generators.	**07**
	(b)	i) Explain load() and display() methods of pickle for an Employee class (EmpId, Name, Salary).	**04**
		ii) Explain seek(), tell() and read() methods using suitable example.	**03**

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Q.4	**(a)**	List various ways to create threads in python. Discuss any one in detail.	**07**
	(b)	i) Differentiate between match() and search() methods of 're' module.	**04**
		ii) Discuss findall(), split() and sub() methods using suitable example.	**03**

OR

Q.4	**(a)**	What is the importance of thread? Discuss thread communication using notify() and wait() methods.	**07**
	(b)	i) Explain how to use urlparse() and urlretreive() function.	**04**
		ii) Discuss \D, {m} and ? special characters used in regular expression using suitable example.	**03**

| Q.5 | **(a)** | Write a program to implement class named "Cart" having methods: Add Item and change Item Quantity (Use Database Interface). | **07** |
| | **(b)** | A company has started its business since last 6 years with investment of Rs. 1,00,000. The profit ratio of all five year is given as 12%, 9%, 8%, -6%, 10% and 11% respectively. Write a program to prepare PyLab graph to show profit and Discuss various methods used to plot graph in python. | **07** |

OR

| Q.5 | **(a)** | Write a program to retrieve and display all rows from Employee Table(Structure(EmpNo,Name,Salary)) using fetchone() method. Discuss changes required in code, if fetchall() is used in place of fetchone(). | **07** |
| | **(b)** | Assume that EMP.CSV file contains (empid, name, salary, gender, DOB, date_join). Write a python statement to do following operations in Data frame | **07** |

    a. Create a data frame from emp.csv file.
    b. Retrieve number of rows and columns
    c. Retrieve 3rd row to 4th rows from data frame
    d. Retrieve employee id and name of employees whose salary is not more than 10000
    e. Display emp record in sorted order of date of joining.
    f. Display all rows having minimum salary
    g. make empid as an index column

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