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Total No. of Questions : 5] SEAT No. :

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F.Y.M.C.A. (Management)

PPR 501 MJ-IT-11 : PYTHON PROGRAMMING

(2024 Pattern) (Semester - I)

Time : 2½ Hours] *[Max. Marks : 50*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks.***

Q1) Solve any Two. **[2×5=10]**

a) Write a program to accept number and Repeatedly find the sum of digits until you get a single digit result.

Example : 9965 → 9+9+6+5 → 29 → 2 + 9 → 11 → 1+1 → 2

b) Write a program to create a list of words from a given string that contain more than 2 vowels.

Input : "Python programming is fun. I like Python programming very much".

Output : ['programming', 'programming']

c) What is set? Demonstrate union, Intersection. Difference and Symmetric difference of sets.

d) Write a program to find all the indices of a substring in the given string.

Q2) Solve any Two. **[2×5=10]**

a) Write a user defined function nMax () which will return the maximum between the entered numbers. Also write a main program to take input and display output.

b) Write a python program that prompts the user to input two numbers and raises a Type Error exception if the inputs are not numerical.

c) Create a generator which will generate the next prime number from the number passed.

Example-If the number passed is 14, then the next prime number is 17.

d) Explain the use of any five functions from the date time module with suitable example.

P.T.O.

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Q3) Solve any Two. **[2×5=10]**

a) What is a inheritance? Explain multilevel inheritance with suitable example.

b) Write a program to check if a password is strong.

The password must have:

i) At least 8 characters

ii) At least one uppercase letter

iii) At least one lower case letter

iv) At least one digit

v) At least one special character (@, #, $, %, &)

c) Write a multithreading program, where one thread prints square of a number and another thread prints cube of numbers. Also display the total time taken for execution.

d) What is operator overloading? Explain with suitable example.

Q4) Write a MongoDB program to create a vehicles collection with fields: VehicleID, Model, Type, Price, Mileage. **[10]**

Perform the following :

a) Insert 5 vehicle documents.

b) Find vehicles with price between 20000 and 50000

c) Update the Mileage of the vehicle whose Vehicle ID is 2.

d) Display top 3 Vehicles according to price.

e) Display vehicles with highest Mileage.

f) Find all vehicles of Type 'SUV'.

g) Display all vehicles in descending order of price.

Q5) Solve any Two. **[2×5=10]**

a) Explain the use of Django Rest Framework (DRF) for building APIS.

b) Write a short note on Django Admin interface .

c) Create a Django form class contact Form with fields: name, email and message and display it in an HTML template.

d) Write a Django model with a foreign key relationship between Author and Book tables.

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