Total No. of Questions : 5]

SEAT No. :

PB-832

[Total No. of Pages : 2

[6204]-21

First Year M.C.A (Management)

IT - 21 : PYTHON PROGRAMMING

(Revised 2020) (Semester - II)

Time : 2½ Hours]

[Max. Marks : 50

Instructions to the candidates:

1) All questions are compulsory.

2) Figures to the right indicates full marks.

3) Assume suitable data if necessary.

Q1) a) Write python program to reverse a number and find the sum of digit in reverse number prompt the uses for input. [5]

b) How would you determine when to use a module in your code. Justify with suitable example. [5]

OR

a) Explain Decorator concept with suitable example.

b) Write a function average() which will return the average of the numbers inputed by the user.

Q2) a) What is multithreading? Implement multithreading with suitable example.[5]

b) Write a Python program that defines a custom exception that takes uses input. If the user enters a negative number, raise the custom exception with an appropriate error message. Implement exception handling to catch and handle this custom exception. [5]

OR

a) Write a Python program that creates two thread. One thread should print even numbers from 2 to 10 & the other should print odd numbers from 1 to 9. Ensure that the threads run concurrently & use Synchronization.

b) What is file in Python? Write a python program that seads a text file named "sample txt" and prints its contents to the console.

P.T.O.

Q3) a) Write a python program to validate PAN CARD number using regular expression. **[5]**

b) What are constructors and destructors in python classes? Explain the purpose of the '....... init ....' and '........ dal ....' methods in class. Give an example of a class with a constructors & destructor. **[5]**

OR

a) Write a python program that illustrate how to use super ( ) to call a method from a parent class within a subclass.

b) Write a python program to validate strong password (conditions, should include one capitalletter, one numeric character & one special character).

Q4) a) Write a Python Program using MangoDB database to create a collection "Badminton Tournaments" with fields (player-id, p-name, age, phone no) and display all registration. **[5]**

b) What do you understand by immutability. Discuss with suitable example. **[5]**

OR

a) Explain shallow copy with suitable example.

b) Write a Python program using MangoDB to create learners collection having field id, name, course & mobile no and display all learners name.

Q5) a) Give data frame as below: **[5]**

Product - id	Prod - name	Price	Profit
P_1	Samsung M32	14000	2000
P_2	1 + Nord 12	16000	2500
P_3	OPPO	10000	1500
P_4	iPhone 14	60000	5000

i) Compute total price of all products

ii) Compute the maximum profit from given products.

b) Create a 6×6 2D numpy array and retrieve bottom right corner 2×2 array.**[5]**

OR

a) Create a series from numpy array and find max and mean of unique items of series.

b) How to create a series from a list numpy array and dictionary? Also demonstrate how to create a series with labeled index.

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