VIT

Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

Continuous Assessment Test(CAT)-I September 2023

Programme	:	**MCA**	Semester	:	**Fall 2023-24**
Course	:	**Python Programming**	Code	:	**PMCA602L**
			Class Nbr	:	**CH2023240101727**
Faculty	:	**B.Saleena**	Slot	:	**G1**
Time	:	**1 ½ Hours**	Max. Marks	:	**50**

Answer ALL Questions

1. Write a Python Progam to perform the following using appropriate methods whereever necessary. **10**

   (i) Get two numbers from user as input, Find the sum of the inputs along with 12% of the first input. (2 marks)

   (ii) Insert a number in to a given list at an appropriate postion. Get the number to be inserted and the position from the User as input.(4 Marks)

   (iii) Display all the integers between 200 to 250 whose sum of digits is a odd number. (4 Marks)

2. Assume you have started the course registration process for the Second semester of your PG degree program. **10**

   In the previous semester, If you have cleared all the subjects (>=50 in each subject) and your CGPA is

   - >=8.5, you will be allowed to register for a total of 30 credits in the current semester.
   - between 8.5 and 7, you will be allowed to register for a total of 25 credits in the current semester.
   - between 7 and 5, you will be allowed to register for a total of 18 credits in the current semester.
   - Less than 5, you will not be allowed to do new course registration, rather you will be advised to improve your previous semester CGPA.

   Write a python code to get the marks for three subjects in integer format. Calulate CGPA and print the relevant credit value to be registered. If CGPA<5, print the output string as: "Course Registration not allowed. Advised for CGPA improvement."

   Note:- CGPA = Total Percentage / 9.5

3. Write a Python program to create a list which comprises of N tuples with the student details like name, height(cm) and weight(Kg) (3 Marks) **10**
   Eg:[("Anish",189.4,73.5), ("Raj",175,60.3),....]
   Write appropriate code to

   (i) Sort the list according to their height. (2 marks)

   (ii) Calculate the BMI using the below formulae and print the students name, weight of students who are overweight. (5 Marks)

   BMI= weight(kg) /(height(m)**2)
   For example, if weight=60.3 and height=175cm(1.75m)
   Then BMI = 60.3/((1.75)**2) = 19.69

BMI	Weight Status
Below 18.5	Underweight
18.5 – 24.9	Normal or Healthy Weight
25.0 – 29.9	Overweight
30.0 and Above	Obese

4 Write a Python program to create a dictionary that contains employee id of the faculty and the course code of the subjects handled by that faculty.For example a faculty with empid 5001 handles "SWE1001","CSE1001, CSE3002" and faculty with emp id 5023 handles PMCA601L","CSE1001" and so on. (3 Marks) **10**

(i) List the employee ID of faculty who are handling more than two subjects (3.5 Marks)
(ii) List out the employee ID of faculties who are handling CSE1001(3.5 Marks)

5. A string contains the following sentence " All our dreams can come true, if we have the courage to pursue them". Write a Python program to perform the following string operations with the given string using appropriate methods whereever necessary. (2 Marks each) **10**

(i) Remove all vowels from a string and display the string
(ii) Convert the string to a list of words.
(iii) Remove all the whitespace characters from the whole string.
(iv) Convert the string to all uppercase and lowercase letters.
(v) Check if a string is a palindrome or not.

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