Code No.: (R22AI501PC)

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CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
III–B.TECH–I–Semester End Examinations (Regular) - December- 2024
PYTHON PROGRAMMING
(Common for CSC, CSM)

[Time: 3 Hours] **[Max. Marks: 60]**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 10 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks.

PART-A **(10 Marks)**

1. a)	What role do translators play in the programming process?	[1M]
b)	Develop a line of code that prompts the user for his or her name and saves the user's input in a variable called name.	[1M]
c)	Develop a python program for caught an arithmetic exception.	[1M]
d)	Build a python program to find out even or odd for given number.	[1M]
e)	Classify the List and Tuple.	[1M]
f)	Develop a python program to find out the largest number.	[1M]
g)	Define Class.	[1M]
h)	List the inheritance types.	[1M]
i)	Develop a python program to read the gender values using radio buttons.	[1M]
j)	Develop a python program to calculate the addition operation using labels.	[1M]

PART-B **(50 Marks)**

2. Develop a Python program that simulates a simple grading system using conditional and logical statements. [10M]

OR

3. An employee's total weekly pay equals the hourly wage multiplied by the total number of regular hours plus any overtime pay. Overtime pay equals the total overtime hours multiplied by 1.5 times the hourly wage. Write a program that takes as inputs the hourly wage, total regular hours, and total overtime hours and displays an employee's total weekly pay. [10M]

4. Design and implement a python program to generate grades for students based on their marks. The system should: [10M]
   1. Accept student information (name, ID, marks in subjects).
   2. Compute grades based on predefined criteria (e.g., A: 90–100, B: 80–89).
   3. Analyze the program's design and its logical flow.
   4. Test edge cases such as invalid inputs (negative marks, out-of-range values) and empty datasets.

OR

5.a)	What is a function? Explain function arguments with an example.	[5M]
b)	Classify the local function and global function with an example?	[5M]
6.a)	Develop a Python program to read a text file and count the number of lines, words, and characters in it.	[10M]
b)	Develop Python program to check if the given string is an anagram or not.	

OR

7.a)	Explain the String Operations with an example.	[5M]
b)	Demonstrate the Math Module.	[5M]

8. Create a base class Employee with a method calculate salary(). Derive two classes Hourly Employee and Salaried Employee that override the calculate_salary() method. Write a program to calculate salaries for both types of employees. [10M]

OR

9. Create a base class Shape with a method area(). Create derived classes Rectangle and Circle that implement the area() method. Write a program to calculate the area of both shapes (rectangle and circle). [10M]

10.a) Explain the widget and frames as input and output fields. [5M]

b) Demonstrate the two-dimensional shapes using turtle graphics. [5M]

OR

11. Create and explain Tkinter modules using python. [10M]

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