CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
III–B.TECH–I–Semester End Examinations (Supply) - June- 2025
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)	How to take input from user in python?	[1M]
b)	Which operator is used to check both are identical?	[1M]
c)	What is a reusable function?	[1M]
d)	How do you declare a global constant in Python?	[1M]
e)	How to access values in a dictionary?	[1M]
f)	Write the features of tuple data structure.	[1M]
g)	Can polymorphism be implemented without inheritance? Justify your answer.	[1M]
h)	List the features of oops in python.	[1M]
i)	How to create Label widget in Python?	[1M]
j)	Which Python libraries are commonly used for image processing?	[1M]

PART-B   (50 Marks)

2.   What is a loop? Explain various looping techniques in Python with syntaxes and example programs.   [10M]

OR

3.a)   Explain about logical operators and bitwise operators in detail.   [5M]

b)   Explain about the following data types with examples : int, float, boolean, complex and str.   [5M]

4.   List the different types of conditional control statements and explain them with suitable example   [10M]

OR

5.   Write a function to determine whether a given natural number is a perfect number or not. (A natural number is said to be a perfect number if it is the sum of its divisors)   [10M]

6.a)   Define tuple methods with syntax. Explain with example, how to use parameter values in python?   [5M]

b)   What is slicing? Explain it with strings and lists with syntaxes and with suitable example programs.   [5M]

OR

7.   What is a list in Python? How to create nested lists? Demonstrate how to create and print a 3-dimensional matrix with lists.   [10M]

8.   What is Inheritance? Explain about different types of inheritances supported in Python?   [10M]

OR

9.   Define Polymorphism and demonstrate in detail about Runtime Polymorphism with an example python program.   [10M]

10. Write a Python program that creates a GUI with a textbox, Ok button and Quit button. **[10M]** On clicking Ok, the text entered in textbox is to be printed in Python shell; on clicking Quit, the program should terminate.

OR

11. What is the RGB system in image processing? Explain how colors are represented in **[10M]** the RGB system.

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