

Code No.: R22AI501PC

R22

H.T.No.

8

R

CMR ENGINEERING COLLEGE: : HYDERABAD

UGC AUTONOMOUS

III–B.TECH–I–Semester End Examinations (Regular) - December- 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) Which function is used to read input from the keyboard in Python? [1M]
- b) What is the difference between the '=' and '==' operators? [1M]
- c) Define a void function. [1M]
- d) Name any two functions of the math module in Python. [1M]
- e) Write the syntax to access a substring using slicing in Python. [1M]
- f) Define recursion. [1M]
- g) What is a class in Python? [1M]
- h) Mention any two advantages of object-oriented programming. [1M]
- i) What is the purpose of the Label widget in Tkinter? [1M]
- j) What does the mainloop() function do in a Tkinter program? [1M]

PART-B

(50 Marks)

- 2.a) Write a Python program to read two numbers from the keyboard and display their sum, difference, and product. [5M]
- b) Explain different types of operators in Python with examples. [5M]

OR

3. Explain the different data types and type conversion functions available in Python with suitable examples. [10M]

- 4.a) Explain definite iteration with an example program. [5M]
- b) Describe selection and conditional iteration with examples of if and while statements [5M]

OR

- 5.a) Explain the purpose of modules in Python. How do you create, import, and use a module in a program? [5M]
- b) Write a Python program that defines a module containing functions to calculate the area of a circle and area of a rectangle, and call them from another program. [5M]

- 6.a) Explain how to access characters and substrings in a Python string using indexing and slicing. [5M]
- b) Write a Python program to count vowels, consonants, digits, and spaces in a given string. [5M]

OR

- 7.a) Differentiate between lists, tuples, dictionaries, and sets with examples. [5M]
- b) Write a Python program to store and display student data (name as key, marks as value) using a dictionary. [5M]

- 8.a) Explain how functions can be used within classes. [5M]
b) Write a Python program to demonstrate instance variables and class variables using a Car class. [5M]

OR

- 9.a) Explain how to create and work with class instances. What are constructors and destructors? [5M]
b) Write a Python program to design a class BankAccount with methods for deposit, withdrawal, and balance display. [5M]

10. What are Radio buttons and Check buttons in Tkinter? Explain their purpose with suitable examples. [10M]

OR

11. Explain Turtle Graphics in Python. Describe methods for drawing basic two-dimensional shapes. [10M]
