QP Code: R253F002 | Reg. No | | | | | | | | | | | AY 23

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET University)

M.C.A. (Third Semester – Regular & Supplementary) Examinations, November – 2025

MCA23302- Python Programming

Time: 3 hrs | Maximum: 60 Marks

Answer ALL questions

(The figures in the right hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions	CO #	Blooms Level
a. Define Extensible and Embedded features.	CO1	K1
b. How do you read multiple values from the keyboard in a single line in Python? Explain with an example.	CO2	K3
c. List out the differences between is and == operators?	CO2	K2
d. Write a list comprehension to generate a list of numbers between 10 and 100 that are divisible by both 3 and 5.	CO2	K3
e. Explain the role of the finally block in Python's exception handling mechanism.	CO4	K2

PART – B **(10 x 5 = 50 Marks)**

Answer ***ALL*** the questions	Marks	CO #	Blooms Level
2. a. Describe the main features that make Python a popular programming language.	5	CO1	K2
b. Differentiate between *is* and == operators in Python with examples where both give different results.	5	CO1	K4
(OR)			
c. Analyse how Python evaluates chained comparison operations (e.g., 3 < 5 == 5 < 8) and explain the result.	5	CO2	K3
d. Develop a Python program to read two integer values from the user and perform all arithmetic operations.	5	CO1	K4
3.a. Explain the working of conditional blocks (if, elif, else) with an example that checks for the largest among three numbers.	5	CO1	K2
b. Explain the usage of map(), and filter() functions with example on each.	5	CO3	K3
(OR)			
c. Write a Python program using a for loop to count the number of uppercase and lowercase letters in a given string.	5	CO2	K3
d. Implement a Python program to find the sum of all elements in a list using reduce() and lambda.	5	CO2	K3
4.a. Develop a Python program to handle ValueError when converting user input to an integer using try, except, and finally.	5	CO3	K3
b. Explain how the seek() and tell() methods are used to manipulate a file pointer in Python with an example.	5	CO1	K1
(OR)			
c. Implement a Python class to represent a bank account that supports deposit and withdrawal methods. Demonstrate object creation and method calls.	5	CO2	K3

d.	Explain how the raise statement is used in Python. Write a code example that raises a user-defined exception.	5	CO3	K3
5.a.	Illustrate a Python program that imports your own module and demonstrates the use of both user-defined and built-in functions.	5	CO2	K3
b.	Write a Python program using the math module to find the area and circumference of a circle, and the square root of a given number.	5	CO2	K3
	(OR)			
c.	Implement a Python program using the math module to calculate the area of a circle, volume of a sphere, and factorial of a number.	5	CO2	K3
d.	Implement a Python program to extract all valid phone numbers from a given text using regular expressions.	5	CO5	K3
6.a.	Explain the steps involved in establishing a connection between a Python program and an SQL database using the sqlite3 or MySQL connector module.	5	CO1	K1
b.	Develop a Python program that searches and displays employee records with a salary greater than a user-specified amount using parameterized queries.	5	CO3	K3
	(OR)			
c.	Implement a Python program to create a table named Employees with fields (EmpID, Name, Salary, Department) and insert at least three records.	5	CO2	K3
d.	Analyse the difference between fetching methods (fetchone(), fetchmany(), and fetchall()) with an example.	5	CO2	K3

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