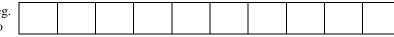# GIET UNIVERSITY, GUNUPUR – 765022

B. Tech (Fifth Semester Regular) Examinations, December – 2023

21BECOE35001 – Fundamentals of Python Programming

(ECE)

Time: 3 hrs   Maximum: 70 Marks

(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.	How can you calculate the distance between two points using the Pythagorean theorem in Python?	CO1	K3
b.	Explain the role of the map() function in the program that triples all numbers in a list.	CO2	K4
c.	Discuss the role of classes and objects in Object-Oriented Programming and their significance in code organization.	CO3	K1
d.	Discuss the role of the __init__.py file in a Python package.	CO4	K2
e.	Write a program for generating the Fibonacci series up to n terms using a lambda function	CO2	K5

PART – B   **(15 x 4 = 60 Marks)**

Answer *ALL* questions

		Marks	CO #	Blooms Level
2. a.	Write a Python program to input marks for three subjects and calculate the sum and percentage. Explain the use of data types in the program.	5	CO1	K4
b.	Write a Python program to create a list of fruits, display it in reverse order, and create a new list containing the reversed strings of each element. Discuss the use of lists and string reversal in the program.	10	CO1	K5

(OR)

		Marks	CO #	Blooms Level
c.	Write a Python program to remove repeated elements from a list. Discuss the logic behind removing duplicates and the role of loops in the program	5	CO1	K3
d.	Write a Python program that takes a sentence as input, extracts words starting with 's', and stores them in a separate array. Discuss the string manipulation and array usage in the program.	10	CO1	K4
3.a.	Explain with a program on how the lambda function is employed to separate even and odd length words from a given paragraph using filter().	7	CO2	K5
b.	Describe the logic behind the program that converts characters to uppercase and lowercase, eliminating duplicates using map().	8	CO2	K3

(OR)

		Marks	CO #	Blooms Level
c.	Discuss the implementation of the program using a recursive function to test	7	CO2	K5

whether a number is prime or not. Include an example with input and output.

d.	Discuss the role of lambda functions in the context of checking the presence of a value in a list and provide an example.	8	CO2 K4

4.a. Describe the concepts of inheritance and polymorphism in object-oriented programming. Provide an example illustrating method overloading. — 8 — CO3 — K2

b. Discuss the importance of error handling and exceptions in Python. Explain the use of **try**, **except**, and **raise** statements with examples. — 7 — CO3 — K3

(OR)

c. Discuss the various file operations in Python. Explain the differences between **read**, **readline**, and **readlines** functions. — 8 — CO3 — K2

d. Describe how file pointers are manipulated using **seek** in Python. Provide an example demonstrating the use of file pointer manipulation. — 7 — CO3 — K1

5.a. How does the **from ... import ...** statement work in Python, and what are its use cases? — 7 — CO4 — K3

b. Write a program to create a string that contains a paragraph. Count how many words it contains and print each word. — 8 — CO4 — K3

(OR)

c. Write a program to find the ratio of positive numbers, negative numbers, and zeroes in an array of integers using map(). — 7 — CO4 — K3

d. Illustrate the steps involved in importing an external module in a Python script. — 8 — CO4 — K4

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