QP Code: RN22BTECH313   Reg. No [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]   AR 22

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

B. Tech (Fifth Semester - Regular) Examinations, November – 2024

22BECOE35011 – Fundamentals of Python Programming

(ECE)

Time: 3 hrs   Maximum: 70 Marks

Answer ALL questions
(The figures in the right hand margin indicate marks)

PART – A   **(2 x 5 = 10 Marks)**

		CO #	Blooms Level
Q.1.	Answer *ALL* questions		
a.	Write a Python program to demonstrate the use of super () function.	CO3	K2
b.	Explain the purpose of the __init__ method in a class.	CO2	K2
c.	Difference between a Mutable datatype and an Immutable data type.	CO1	K1
d.	Explain the difference between a for loop and a while loop in Python. Provide the syntax for both.	CO1	K1
e.	What is SQLite, and why is it commonly used with Python? What is the purpose of the commit () and rollback () method in database transactions?	CO5	K2

PART – B   **(15 x 4 = 60 Marks)**

Answer *All* the questions

		Marks	CO #	Blooms Level
2. a.	Write a program using a nested for loop to print the following pattern: * ** *** **** *****	8	CO1	K1
b.	Describe Python's break, continue, and pass statements with example of code.	7	CO2	K1
	(OR)			
c.	Write a Python program to generate the Fibonacci series up to n terms using loops.	8	CO2	K1
d.	Explain briefly about all the operators in Python. Write Python program for Swapping of two numbers.	7	CO1	K1
3.a.	Write the syntax of **if-elif-else ladder** in Python. Write a Python program that uses this structure to find the largest of three numbers.	8	CO1	K2
b.	Write a Python program to check whether a number is prime or not.	7	CO2	K1
	(OR)			
c.	Discuss the concept of recursion in Python. Write a Python program to find the factorial of a number using recursion.	8	CO2	K2
d.	Explain lists in Python. Explain the different methods available for list manipulation (e.g., append(), extend(), pop(), remove(), insert()).	7	CO3	K2
4.a.	Explain Inheritance in Python. Write a python code to demonstrate Single Inheritance.	8	CO3	K2
b.	Discuss how exceptions can be handled. What is the purpose of try, except, and finally blocks? Write a program to demonstrate their usage.	7	CO4	K2

	(OR)			
c.	Discuss how Python implements operator overloading with an example.	8	CO4	K2
d.	Describe the concept of polymorphism in Python with a code snippet.	7	CO5	K2
5.a.	Write a Python program to connect to database and create a student table with Roll no, Name, Registration no. and section as attribute.	8	CO3	K1
b.	Describe Python modules. Explain how to use the math module with example of code.	7	CO4	K2
	(OR)			
c.	Explain the methods used to read files in Python (read(), readline(), readlines()) with examples.	8	CO4	K1
d.	Explain the different file access modes (r, w, a, r+, w+ and a+) with examples.	7	CO5	K2

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