Reg. No.															

Question Paper Code	12690

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2024

Second Semester

Civil Engineering

(Common to Electronics and Communication Engineering , Electrical and Electronics Engineering , Electronics and Instrumentation Engineering , Instrumentation and Control Engineering , Mechanical Engineering , Mechanical and Automation Engineering , Computer and Communication Engineering)

20ESIT201 - PYTHON PROGRAMMING WITH LABORATORY

Regulations - 2020

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	Define the role of indentation in Python programming.	2	K1	CO1
2.	Write a python program for Sum of two numbers.	2	K2	CO1
3.	Difference between break and continue.	2	K2	CO2
4.	Write a program to check whether a number is positive or negative.	2	K2	CO2
5.	Tabulate the difference between tuples and lists in Python.	2	K2	CO3
6.	What is the output of print tuple[1:3] if tuple =('abcd', 786, 2.23,'john', 70.2)?	2	K2	CO3
7.	Define local and global scope in Python.	2	K1	CO4
8.	Write about the usage of “from-import” statement in Python modules.	2	K2	CO4
9.	List the use of multiple except blocks in Python exception handling.	2	K1	CO6
10.	State the purpose of the else clause in Python exception handling.	2	K1	CO6

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

			Marks	K – Level	CO
11.	a)	Provide examples illustrating the use of arithmetic, logical and comparison operators in expressions.	13	K2	CO1
		OR			
	b)	Explain basic python data types with examples.	13	K2	CO1
12.	a)	Detail the concept of iteration in Python and its importance in repeating a block of code multiple times.	13	K2	CO2
		OR			
	b)	Describe the syntax and functionality of the conditional, alternative and chained statements in Python with example	13	K2	CO2

13. a) Explain the concept of set and set operations, methods, usage and practical applications. *13 K2 CO3*

OR

b) Write a Python program to perform the insertion sort algorithm for sorting a list. Explain the algorithm and provide examples, demonstrating its usage. *13 K2 CO3*

14. a) Discuss the importance of functions in programming and explain the process of defining and using functions in Python. Provide examples illustrating function definition and invocation. *13 K2 CO4*

OR

b) Explain the concept of recursion in Python functions. Describe how recursive functions call themselves to solve problems, and provide examples of recursive functions such as factorial or Fibonacci series. *13 K2 CO4*

15. a) Detail the process of handling exceptions in Python using the try-except block. Provide examples demonstrating how to catch and handle different types of exceptions. *13 K2 CO6*

OR

b) Differentiate built-in and user-defined exceptions in Python. Provide examples of common built-in exceptions and explain how to define custom exceptions. *13 K2 CO6*

PART - C (1× 15 = 15 Marks)

16. a) Write a Python program that takes two matrices as input from the user and performs matrix multiplication. The program should prompt the user to enter the dimensions of the matrices and validate that they are compatible for multiplication. After obtaining the matrices, the program should calculate the result of multiplying the two matrices and display the resulting matrix. *15 K3 CO5*

OR

b) Write a Python program that generates the first 'n' prime numbers requested by the user. The program should prompt the user to input the value of 'n' and then compute and display the first 'n' prime numbers. Ensure the program correctly identifies prime numbers and efficiently generates them. *15 K3 CO5*