School of Engineering
Question Bank
I Year B. Tech – I Semester – 2023–24
Python Programming (MR23-1CS0101)

Q. No	Question	Course Outcome	Question Level	Marks	Section	Unit
1	Define flowchart and discuss the symbols used for drawing a flowchart. Draw a flowchart to find out whether a given number is even or odd.	CO1	Easy	8	Section-I	1
2	Define Algorithm. Explain the characteristics of an algorithm with suitable example.	CO1	Easy	8	Section-I	1
3	(a) List out the differences between C and Python. (b) Explain the features of Python programming language.	CO1	Medium	8	Section-I	1
4	Explain the following: (a) Types of programming language (b) Flavors of Python	CO1	Easy	8	Section-I	1
5	Explain the operation of the Python Virtual Machine (PVM) with neat diagram.	CO1	Medium	8	Section-I	1
6	Define a computer and briefly describe its hardware and software.	CO1	Medium	8	Section-I	1
7	Explain the steps to writing an algorithm to find the sum of N natural number.	CO1	Medium	8	Section-I	1
8	List the steps used to view the byte code of a Python program.	CO1	Complex	8	Section-I	1
9	Explain comments and docstrings in a Python with a sample code.	CO1	Medium	8	Section-I	1
10	Define Python programming. Briefly explain the history of Python	CO1	Easy	8	Section-I	1
11	Illustrate the different types of operators used in Python with a suitable example.	CO2	Easy	8	Section-II	2
12	Write about the concept of operator Precedence and Associativity in Python.	CO2	Complex	8	Section-II	2
13	Write Python code to calculate the number of minutes in a week using variables? Use variables called days_per_week, hours_per_day, and minutes_per_hour, and then multiply them together.	CO2	Complex	8	Section-II	2
14	Briefly explain about Command Line Arguments in Python.	CO2	Complex	8	Section-II	2
15	Classify the built-in data types based on mutable and immutable. Explain any two data types with example program.	CO2	Medium	8	Section-II	2

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16	Explain the following built-in data types: i) None ii) Numeric iii) Bool iv) Strings.	CO2	Medium	8	Section-II	2
17	Describe the List operations with an example program.	CO2	Medium	8	Section-II	2
18	Explain the operations and methods on Tuple and Dictionaries with an example program.	CO2	Complex	8	Section-II	2
19	a) Briefly describe set and frozenset with an example program. b) Describe input and output statements with a sample program for each type of statement.	CO2	Easy	8	Section-II	2
20	State the use of constants, identifiers, reserve words, and naming conventions.	CO2	Easy	8	Section-II	2
21	Explain about the following Decision control statements: a) Nested if statement b) if else statements c) elif statements d) ladder elif statements.	CO3	Medium	8	Section-III	3
22	Distinguish between a while loop and a for loop in Python programming. Build a program to find the sum and average of the first 10 numbers.	CO3	Complex	8	Section-III	3
23	Write a Python program to print natural numbers up to n in reverse order.	CO3	Complex	8	Section-III	3
24	Explain the different ways of creating arrays in Numpy with suitable examples.	CO3	Medium	8	Section-III	3
25	Explain elseif ladder in Python programming and write a program to find greatest of three numbers.	CO3	Medium	8	Section-III	3
26	Explain the following statements with a flowchart and sample program: i) break ii) continue iii) pass iv) assert	CO3	Medium	8	Section-III	3
27	What is an array? Can we use List as a substitute of arrays? Justify.	CO3	Complex	8	Section-III	3
28	Explain the following with a simple program: i) Creating an array & Accessing array elements ii) Different ways to add an element to an array iii) Different ways to delete an element from an array & Searching an element in an array iv) Slicing an array	CO3	Medium	8	Section-III	3
29	Mention the advantages of using the Numpy module instead of the array module.	CO3	Easy	8	Section-III	3
30	Write short notes on the following using Numpy with an example program. i) arrange ii) reshape iii) array of zeros and ones iv) slicing	CO3	Medium	8	Section-III	3

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31	Write a program to perform the following operations on a 2-dimensional matrix of 3x3 size using an array. i) Addition ii) Multiplication	CO3	Complex	8	Section-III	3
32	What is a function? Explain function declaration, definition, and function call in Python.	CO4	Easy	8	Section-IV	4
33	Explain how to define a class and creation of objects with an example python code.	CO4	Easy	8	Section-IV	4
34	Develop Python code for the following using Recursion: a) Factorial of a given number. b) Fibonacci Sequence up to n terms.	CO4	Complex	8	Section-IV	4
35	Explain the class constructor __init__() method with example programs.	CO4	Easy	8	Section-IV	4
36	a) Demonstrate the various types of arguments in functions with a sample program. b) In Python, functions are always called by passing reference, Justify.	CO4	Easy	8	Section-IV	4
37	a) Explain built-in functions with suitable example programs. b) Define user-defined function and list out the advantages of user-defined function.	CO4	Easy	8	Section-IV	4
38	a) Briefly describe local and global variables with an example program. b) Define the python recursion function. Write a Python program for factorial using recursion.	CO4	Medium	8	Section-IV	4
39	a) Write a Python function that takes two lists and returns True if they have at least one common member? b) What are anonymous functions in Python? Demonstrate the use of Lambda functions with a sample code.	CO4	Complex	8	Section-IV	4
40	a) What are Python OOPs concepts? b) Write the syntax to create a class and an object with an example program.	CO4	Medium	8	Section-IV	4
41	Define inheritance and brief about different types of inheritances with an example program.	CO4	Medium	8	Section-IV	4
42	a) Define constructor and method overriding with an example. b) Briefly explain Polymorphism, Encapsulation and Abstraction?	CO4	Medium	8	Section-IV	4
43	a) Define a function with an example program? b) Briefly describe formal and actual arguments with an example program.	CO4	Medium	8	Section-IV	4
44	Develop a Python program to implement a single try block with multiple except blocks and trace the code for its execution.	CO5	Easy	8	Section-V	5

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45	Explain how to handle various files using Python. Give an example.	CO5	Medium	8	Section-V	5
46	Define an error. Explain the types of errors and exceptions in Python.	CO5	Medium	8	Section-V	5
47	Implement a Python program to create a test file, insert some text into it, and close the file.	CO5	Medium	8	Section-V	5
48	a) Why is exception handling more important in Python? Briefly explain try except-else-finally block? b) Write a Python program to handle the ZeroDivisonError exception.	CO5	Medium	8	Section-V	5
49	a) Define Exception? List any six types of exceptions. b) List out different types of file modes in python?	CO5	Complex	8	Section-V	5
50	Write a short note on: i) Advantages of storing data in files ii) Importance of closing the file iii) seek () function iv) tell () function	CO5	Medium	8	Section-V	5
51	a) What are the different ways of creating a new file and writing data into a file? Give an example program in python? b) Write a Python program to know whether a file exists or not; if it does, display the content of the file with an example program.	CO5	Medium	8	Section-V	5