

BACHELOR OF TECHNOLOGY (CBCS - 2023)
B. Tech. Sem-III Computer Science & Engineering-AI&ML : WINTER : 2024
SUBJECT: PYTHON PROGRAMMING

Day : Friday
Date : 13/12/2024

W-29210-2024

Time : 10:00 AM-01:00 PM
Max. Marks : 60

N.B:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat and labelled diagram **WHEREVER** necessary.
- 4) Use of Non-programmable **CALCULATOR** is Allowed.
- 5) Assume suitable data if necessary.

Q.1 Mention any 5 features of python programming. Describe operators in Python. [10]
What are the various types of operators, and how do they function in expressions?

OR

Q.1 Describe the different ways to run a Python program, and discuss the [10]
advantages of using one over the other.

Q.2 Discuss the different types of loops available in Python, provide examples [10]
illustrating how each loop operates.

OR

Q.2 Create a class that represents a mathematical entity, such as a 'Rectangle', [10]
and include methods to perform calculations like area and perimeter also
demonstrates the use of the continue statement in this context.

Q.3 Write a menu driven program to demonstrate use of list in python [10]
a) Put Even and Odd elements into Two Different Lists.
b) Merge and sort the two lists.
c) Update the first element with X value and delete the middle element of the
list.
d) Find max and min elements from the list.

OR

Q.3 Explain about the following dictionary methods with an example code [10]
(a) fromkeys method (b) clear() (c) copy() (d) pop()

Q.4 Explain how to handle exceptions in Python using try-except blocks. Provide [10]
an example of handling a specific exception, illustrating the concept.

OR

Q.4 What are different file object attributes. Explain in detail. [10]

P.T.O.

Q.5 Discuss the different types of regular expressions with the help of example. [10]

OR

Q.5 What are some common use cases for regular expressions in Python? Provide at least three examples of practical applications. [10]

Q.6 Create a class hierarchy for a bank system. Implement a base class Account with attributes for account_number and account_holder. Create two subclasses, SavingsAccount (with an interest_rate attribute) and CurrentAccount (with an overdraft_limit attribute). Each class should have a method display_info() to print the details. [10]

OR

Q.6 What is method overriding in Python? Explain how a derived class can override a method from its base class. Provide an example demonstrating this concept. [10]

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