

MID TERM

Marks

Problem - 1

- Write down the differences between class method and static method of Python with proper examples.(at least 3)

10

Problem - 2

- Explain with proper examples what is meant by polymorphism in Python.

15

Problem - 3

- Write a class with three instance variables a,b and c.
Now add the following two methods in that class
- a) **sum()** to get the sum of a,b and c.
 - b) **factorial()** to get the factorial of b.

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Problem - 4

- Explain with proper examples what is meant by multilevel inheritance in Python.

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Problem - 5

- Write the advantages of using inner functions in Python OOP. Provide specific use cases where inner functions can enhance code readability and organization. (note: answer with proper examples).

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Problem - 6

→ Write Python program to solve [Frequency Array](#)

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Problem - 7

→

```
class Person:
    def __init__(self, name, age, height, weight) -> None:
        self.name = name
        self.age = age
        self.height = height
        self.weight = weight
```

```
class Cricketer(Person):
    def __init__(self, name, age, height, weight) -> None:
        super().__init__(name, age, height, weight)
```

```
Sakib = Cricketer('Sakib', 38, 68, 91)
Mushfiq = Cricketer('Mushfiq', 36, 55, 82)
Mustafiz = Cricketer('Mustafiz', 27, 69, 86)
Riyad = Cricketer('Riyad', 39, 72, 92)
```

Modify the Cricketer class to find the youngest player using the concept of operator overloading and lastly print his name.

15