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PRESIDENCY UNIVERSITY

BENGALURU

Make Up Examinations – December 2025

Date: 26 – 12- 2025

Time: 1.00pm to 04.00pm

School: SOCSE	Program: B.Tech		
Course Code : CSE3216	Course Name: Mastering Object Oriented Concepts in Python		
Semester: MK	Max Marks: 100	Weightage: 50%	

CO - Levels	C01	C02	C03	C04	C05
Marks	33	31	36	NA	NA

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks.

10Q x 2M=20M

1.	Define the term class and object in the context of Python.	2 Marks	L1	C01
2.	What is the purpose of a constructor in a Python class?	2 Marks	L1	C01
3.	What are the different types of methods in Python classes?	2 Marks	L1	C01
4.	What is encapsulation? How does it help in protecting data?	2 Marks	L1	C01
5.	What is the Method Resolution Order (MRO) in Python?	2 Marks	L1	C02
6.	What is duck typing in Python?	2 Marks	L1	C02
7.	What is method overriding? How is it different from method overloading?	2 Marks	L1	C02
8.	Define exception handling. Why is it important in Python?	2 Marks	L1	C03
9.	How does Python handle multiple exceptions in a program?	2 Marks	L1	C03
10.	What is the purpose of the 'assert' statement in Python?	2 Marks	L1	C03

Part B

Answer the Questions.

Total Marks 80M

11.	a.	Define the core features of Object-Oriented Programming. Explain each with relevant Python examples.	10 Marks	L1	CO1
Or					
12.	a.	Discuss the different types of methods in Python classes— instance, class, and static methods. Provide code snippets for each.	10 Marks	L1	CO1
Or					
13.	a.	Explain constructor overriding in inheritance. How does the <code>super()</code> function help? Illustrate with code.	10 Marks	L3	CO2
Or					
14.	a.	Explain the concept of abstract classes and interfaces in Python. How are they implemented?	10 Marks	L3	CO2
Or					
15.	a.	Explain exception handling in Python. Write a program that uses multiple <code>except</code> blocks and a <code>finally</code> block.	10 Marks	L3	CO3
Or					
16.	a.	Explain the use of the <code>with</code> statement, <code>seek()</code> , and <code>tell()</code> methods with an example that reads specific content from a file.	10 Marks	L3	CO3
Or					
17.	a.	Implement a program that demonstrates encapsulation. Define a class <code>BankAccount</code> with a private variable <code>_balance</code> . Provide public methods to deposit, withdraw, and get the balance. Include a constructor to initialize balance.	15 Marks	L3	CO1
Or					
18.	a.	Create two classes <code>Engine</code> and <code>Car</code> . Write a program to pass an object of the <code>Engine</code> class as a parameter to the <code>Car</code> class, and display how one class's members can be accessed in another.	15 Marks	L3	CO1
Or					
19.	a.	Design a program to demonstrate multiple inheritance. Create two base classes <code>Academic</code> and <code>Sports</code> with marks, and a derived class <code>Result</code> that inherits both. Display total marks and explain MRO.	15 Marks	L3	CO2
Or					
20.	a.	Write a program that demonstrates duck typing. Create two unrelated classes with the same method name <code>fly()</code> (e.g., <code>Bird</code> ,	15 Marks	L3	CO2

		Airplane), and call them polymorphically using a single function.			
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21.	a.	Develop a program using exception handling where a user inputs two numbers and the program performs division. Handle ValueError, ZeroDivisionError, and use finally to print "Execution Completed".	20 Marks	L3	C03
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Or

22.	a.	Create a program that reads and writes to a binary file. Define a class Student with attributes name and roll_no. Write objects to a binary file using pickle, and read them back. Use try-except blocks as needed.	20 Marks	L3	C03
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