



Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

B.Tech Degree S3 (S) Examinations (FT/WP) May 2026 (2024 Scheme)

**Course Code: PBCST304**

**Course Name: OBJECT ORIENTED PROGRAMMING**

Max. Marks: 40

Duration: 2 hours 30 minutes

**PART A**

*(Answer all questions. Each question carries 2 marks)*

		CO	Marks
1	A Java program is compiled on a Windows machine and the .class file is transferred to a Linux machine. The Linux machine does not have the JDK installed, only the JRE. Can the program be executed on the Linux machine? Justify your answer.	CO1	(2)
2	Consider the following code:  <pre>int a = 5; int b = a++; int c = ++a;</pre>	CO1	(2)
3	What are the values of a, b, and c after execution? Explain constructor calling order in inheritance with example.	CO2	(2)
4	What is method overriding? State any two rules that must be followed when overriding a method in Java.	CO2	(2)
5	Write a Java program to show interface inheritance. (Create interface A, interface B extends A, class C implements B)	CO3	(2)
6	What happens if two packages contain classes with the same name?	CO3	(2)
7	What is JDBC? Mention any two components of JDBC.	CO4	(2)
8	What is a Layout Manager in Swing? Give one example.	CO4	(2)

**PART B**

*(Answer any one full question from each module, each question carries 6 marks)*

**Module -1**

9	a) Write a Java program to create a class Electricity Bill with the following details:	CO1	(6)
	<ul style="list-style-type: none"><li>• <b>Data Members:</b><ul style="list-style-type: none"><li>○ consumerNo (int)</li><li>○ consumerName (String)</li><li>○ unitsConsumed (int)</li><li>○ billAmount (double)</li></ul></li><li>• <b>Methods:</b><ul style="list-style-type: none"><li>○ inputDetails() – to read consumer details</li><li>○ calculateBill() – to compute the electricity bill based on:</li></ul></li></ul>		

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- First 100 units → ₹5 per unit
- Next 100 units → ₹7 per unit
- Above 200 units → ₹10 per unit
- displayBill() – to display the bill details

Create an object of the class and demonstrate the working of all methods.

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|----|----|---|-----|-----|
| 10 | a) | What is operator precedence?  | CO1 | (2) |
|    | b) | Write a Java program to create a class <b>Complex</b> to add two complex numbers. | CO1 | (4) |

**Module -2**

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|----|----|---|-----|-----|
| 11 | a) | Explain different types of inheritance in Java with examples.   | CO2 | (4) |
|    | b) | What is protected access specifier?   | CO2 | (2) |
| 12 | a) | Explain Inner Classes in Java.  | CO2 | (2) |
|    | b) | Write a Java program to demonstrate method overloading by calculating the area of different shapes (circle, rectangle, triangle). | CO2 | (4) |

**Module -3**

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|----|----|--|-----|-----|
| 13 | a) | Develop a Java program to demonstrate exception handling using try-catch-finally for division operation. | CO3 | (4) |
|    | b) | What is difference between abstract class and interface?   | CO3 | (2) |
| 14 | a) | Develop a Java program using interface to demonstrate multiple inheritance behaviour.                    | CO3 | (4) |
|    | b) | What is CLASSPATH?   | CO3 | (2) |

**Module -4**

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|----|----|---|-----|-----|
| 15 | a) | Explain CRUD operations using JDBC.                                       | CO4 | (4) |
|    | b) | What is ResultSet?  | CO4 | (2) |
| 16 | a) | Write a Java Swing program to create a button and handle its click event. | CO4 | (4) |
|    | b) | Which adapter class is used for window events?                            | CO4 | (2) |

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