

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Regular/Supplementary Winter Examination – 2025

Course: B.Tech in Computer Engineering and Allied Branches

Semester: III

Subject Code & Name: Object Oriented Programming in JAVA (BTCOC305B)

Max Marks: 60

Date: 23rd February 2026

Duration: 3 Hr.

Instructions to the Students:

- 1 Each question carries 12 marks.
- 2 Question No. 1 will be compulsory and include objective-type questions.
- 3 Candidates are required to attempt any four questions from Question No. 2 to Question No. 6.
- 4 The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question.
- 5 Use of non-programmable scientific calculators is allowed.
- 6 Assume suitable data wherever necessary and mention it clearly.

Marks

Q. 1 Objective type questions. (Compulsory Question)

12

- 1 The _____ statement is used to exit from a loop immediately. 1
a) skip b) break c) exit d) stop
- 2 A constructor in Java must have the same name as the _____. 1
a) Method b) Variable c) Class d) Package
- 3 The keyword used to inherit a class in Java is: 1
a) inherits b) extends c) implements d) super
- 4 Which logical operator represents AND operation? 1
a) && b) || c) ! d) &
- 5 All classes in Java are directly or indirectly derived from: 1
a) System b) Class c) Main d) Object
- 6 The property used to determine array size in Java is _____. 1
a) size() b) count c) capacity d) length
- 7 The memory area where objects are created in Java is called: 1
a) Stack b) Heap c) Method Area d) Register
- 8 The block that is always executed irrespective of exception occurrence is: 1
a) catch b) throw c) try d) finally
- 9 Which exception is thrown when accessing an invalid array index? 1
a) NullPointerException b) ArithmeticException
c) ArrayIndexOutOfBoundsException d) NumberFormatException
- 10 Which of the following is a reference type in Java? 1
a) int b) double c) char d) String
- 11 The JavaScript method used to select an element by ID is _____. 1
a) getElement() b) selectById() c) queryId() d) getElementById()

12	The keyword used to create an object in Java is _____. a) create b) make c) new d) object	1
Q. 2	Solve the following.	12
A)	Differentiate between primitive types and reference types in Java. Define the terms class, object, method, and instance variable.	6
B)	Write a Java program to define a class Student with instance variables name and marks. Include set and get methods and display the details.	6
Q.3	Solve the following.	12
A)	Describe the difference between while and do-while loops. State the purpose of the break and continue statements.	6
B)	Explain the working of if-else and switch statements with examples.	6
Q. 4	Solve Any Two of the following.	12
A)	Define an array and explain its characteristics. State the syntax for declaring and creating arrays.	6
B)	Write a Java program to find the largest element in an array.	6
C)	Define multidimensional arrays and explain how they are declared in Java. State the purpose of the length property in arrays.	6
Q.5	Solve Any Two of the following.	12
A)	Define inheritance and explain its primary purpose in object-oriented programming.	6
B)	Explain how constructor chaining works between superclass and subclass using the super keyword.	6
C)	Create an abstract class <i>Shape</i> with an abstract method <i>calculateArea()</i> . Implement two subclasses <i>Triangle</i> and <i>Square</i> that provide concrete implementations.	6
Q. 6	Solve Any Two of the following.	12
A)	Define exception handling in Java and state its primary objectives. List the main keywords used in Java exception handling and specify their purposes.	6
B)	Write a Java program that demonstrates the use of multiple catch blocks for handling <i>ArithmeticException</i> and <i>ArrayIndexOutOfBoundsException</i> .	6
C)	Explain the role of the <i>finally</i> block and discuss scenarios where it is mandatory.	6

*** End ***