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BRAINWARE UNIVERSITY

Term End Examination 2025-2026

Programme – B.Tech.(CSE)-2024/B.Tech.(CSE)-AIML-2024/B.Tech.(CSE)-DS-2024/B.Tech.(CSE)-AIR-2024/B.Tech.(CSE)-CYS-2024

Course Name – Object Oriented Programming

Course Code - BTS40107/BTA40107/BTD40107/BTR40107/BTY40107

(Semester IV)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) There are two types of polymorphism in Java Select one of them from the following
 - a) Compile time polymorphism
 - b) Execution time polymorphism
 - c) Multiple polymorphism
 - d) Multilevel polymorphism
- (ii) Select the return type of the constructors in JAVA.
 - a) int
 - b) float
 - c) does not return anything
 - d) void
- (iii) Select the method that is used to delete object in Java.
 - a) finalize()
 - b) main()
 - c) delete()
 - d) None of these
- (iv) The process through one can control, parts of a program can access the members of a class in JAVA. Describe it as
 - a) Polymorphism
 - b) Encapsulation
 - c) Abstraction
 - d) Recursion
- (v) select the class which holds a collection of static methods and variables?
 - a) Void
 - b) Runtime
 - c) Process
 - d) System
- (vi) State the return type of Math.random() method?
 - a) Integer
 - b) String
 - c) Double
 - d) Boolean
- (vii) Identify the method returns the total number of bytes of memory available to the program?
 - a) getMemory()
 - b) TotalMemory()
 - c) getProcessMemory()
 - d) SystemMemory()

- (viii) Select the feature by which one object can interact with another object
- a) Data transfer
 - b) Data binding
 - c) Message passing
 - d) Message reading
- (ix) Write the feature name - if same message is passed to objects of several different classes and all of those can respond in a different way is
- a) Inheritance
 - b) Polymorphism
 - c) Overloading
 - d) Overriding
- (x) Choose which layout manager is typically used to arrange components in a grid format?
- a) FlowLayout
 - b) BorderLayout
 - c) GridLayout
 - d) CardLayout
- (xi) Choose in Java GUI programming, what is an event?
- a) A graphical component
 - b) A user action or occurrence
 - c) A layout manager
 - d) A container class
- (xii) Choose which Swing component is used to create a clickable button in a GUI?
- a) JLabel
 - b) JButton
 - c) JTextField
 - d) JCheckBox
- (xiii) Choose the main container class used to create a top-level window in a Swing application?
- a) JFrame
 - b) JPanel
 - c) JWindow
 - d) JDialog
- (xiv) Identify the option that best differentiates OOP from procedural programming.
- a) Use of loops
 - b) Emphasis on data rather than functions
 - c) Emphasis on objects combining data and behavior
 - d) Use of algorithms
- (xv) Recall from the following scenarios that best illustrates runtime polymorphism.
- a) Function overloading
 - b) Operator overloading
 - c) Method overriding
 - d) Constructor overloading

Group-B

(Short Answer Type Questions)

3 x 5=15

2. State one advantage of Object Oriented Programming over conventional programming. (3)
3. Discuss about methods of String class (3)
4. Describe "this" keyword in Java. (3)
5. Determine how to achieve static polymorphism in Java. (3)
6. Analyze the difference between Object-Oriented Programming (OOP) and conventional programming paradigms. (3)

OR

Compare the advantages and disadvantages of Object-Oriented Programming (OOP) with other programming paradigms. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Explain "final" keyword in Java, particularly in the context of inheritance and method overriding. (5)
8. Explain the process of creating and implementing interfaces in Java, highlighting their role in achieving multiple inheritance. (5)
9. Explain the basics of multithreading. (5)
10. Explain the thread lifecycle in Java. (5)
11. Apply the package by import fully qualified name (5)

12. Explain the significance of the "super" keyword in Java inheritance, and how is it used to call a superclass constructor? (5)

OR

- Explain the concept of multilevel hierarchy in inheritance and provide an example demonstrating its use. (5)

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