



BRAINWARE UNIVERSITY

Term End Examination 2023-2024
Programme – MCA-2022/MCA-2023
Course Name – Core Java and Advanced Java
Course Code - MCA201
(Semester II)

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) Which Java keyword is used to define a constant?
a) final
b) const
c) static
d) constant
- (ii) Which of the following is a valid method of String class to obtain a character at a specified index?
a) char(index)
b) Charat(index)
c) CharAt(index)
d) charAt(index)
- (iii) Choose the following which is not a valid use of the this keyword in Java.
a) Accessing instance variables within a constructor
b) Calling another constructor from within a constructor
c) Referring to static members of the class
d) Returning the current class instance from a method
- (iv) What is an anonymous inner class in Java?
a) An inner class that is not assigned a name.
b) An inner class that is declared with anonymous keyword.
c) An inner class without any method.
d) An inner class without any method and declared with anonymous keyword..
- (v) Choose the statement that will not display the content of the character array as given below: `char x[]={ 'a', 'b' }`;
a) `System.out.println(new String(x));`
b) `System.out.println(x.toString());`
c) `System.out.println(java.util.Arrays.toString(x));`
d) `System.out.println(String.valueOf(x));`

- (vi) Indicate the true fact about the access of members between an outer class and its inner class.
- a) The outer class has access to the members of the inner class b) The inner class has access to the members of the outer class including private members
- c) The inner class has access to the members of the outer class excluding private members d) Neither class has access to each other's members
- (vii) Determine the issue because of which diamond problem arise in inheritance.
- a) Memory issues in OOP b) Multiple inheritance ambiguity
- c) Lack of abstraction d) Too many static methods
- (viii) Which of the following access specifier must be used with a class so that it can be inherited by subclass in different package but prevents access of non sub class in other package?
- a) public b) private
- c) protected d) none of these
- (ix) Conclude what will happen if two thread of the same priority are called to be processed simultaneously?
- a) Anyone will be executed first lexicographically b) Both of them will be executed simultaneously
- c) None of these will be executed d) It is dependent on the operating system
- (x) Judge which of the following is a correct constructor for thread.
- a) Thread(Runnable a, String str) b) Thread(int priority)
- c) Thread(Runnable a, int priority) d) Thread(Runnable a, ThreadGroup t)
- (xi) Identify the JDBC driver type that is entirely based on Java.
- a) Type-3 Driver b) Type-1 Driver
- c) Type-2 Driver d) Type-4 Driver
- (xii) Determine the correct interface that provides the commit() and rollback() methods.
- a) Statement Interface b) ResultSet Interface
- c) Connection Interface d) RowSet Interface
- (xiii) Assess the correct signature of the doPost() method of the HttpServlet class.
- a) doPost(HttpServletRequest req, HttpServletResponse resp) b) doPost(HttpServletResponse resp, HttpServletRequest req)
- c) doPost(HttpResponse resp, HttpRequest req) d) doPost(HttpRequest req, HttpResponse resp)
- (xiv) Evaluate where JSP fits within the MVC architecture.
- a) Model b) View
- c) Controller d) None of these
- (xv) Decide what fat client and thin server signifies in two-tier architecture.
- a) Business logic resides on the client end. b) Business logic resides on the server side.
- c) Business logic resides on the client as well as server side. d) Business logic do not exist on server side.

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Determine the reason behind an Abstract class can not be instantiated. (3)
3. Explain thread synchronization with an example. (3)
4. Explain abstract method in Java. (3)
5. Evaluate whether static constructors can be created in Java. (3)
6. Write a program in Java to sort an array of n elements (3)

OR

Write a program in Java to check a given string is palindrome or not

(3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. In Java, multiple inheritance is avoided through classes. Justify this statement. (5)
8. Differentiate between abstract class and interface. (5)
9. Elaborately discuss multi-threading with examples. (5)
10. Differentiate Array and ArrayList. (5)
11. Elaborately write about Life Cycle of Servlet. (5)
12. Discuss the the steps a JDBC application should follow. (5)

OR

Write a Java program to establishing a database connection and inserting data in a table student present in a database named university, having both user name and password as root. (5)
