

KATHMANDU UNIVERSITY
End Semester Examination
July/August 2024

Mark Scored :

Level : B. E.

Year : III

Exam Roll No. :

Time: 30 mins.

Course : GEOM 319

Semester : II

F. M. : 10

Registration No.:

Date 05 AUG 2024

SECTION "A"

[20 Q. × 0.5 = 10 marks]

Choose the most appropriate answer from the given choices.

- Which of the following statements is FALSE?
 - Almost everything is in classes.
 - The class files contain "byte-codes" to be executed by the Java Virtual Machine.
 - The class files generated by the compiler are executable binaries.
 - There must be only one public class per file.
- Which of the following is a valid filename for this program?

```
import java.awt.*;  
import java.util.*;  
public class SomethingOrOther {  
    ...  
    ...  
    ...  
}
```

 - somethingorother.java
 - Somethingorother.java
 - somethingOrOther.java
 - SomethingOrOther.java
- Which of the following is a valid long literal?
 - ABH8097
 - L990023
 - 904423
 - 0xnf029L
- What will be the result of the below program?

```
public class Test {  
    public static void main(String[] args) {  
        int count = 1;  
        while (count < 10) {  
            System.out.println(count % 2 == 1 ? "****" : "+++");  
            ++count;  
        }  
    }  
}
```

- a. *** will be displayed 9 times
 - b. +++ will be displayed 9 times
 - c. *** will be displayed 5 times and +++ will be displayed 4 times
 - d. Both will be displayed once
5. Which option is FALSE about the final keyword?
- a. A final method cannot be overridden in its subclasses.
 - b. A final class cannot be extended.
 - c. A final class cannot extend other classes.
 - d. A final method can be inherited.
6. Can the Java program accept input from the command line?
- a. Yes, by accessing the command prompt.
 - b. Yes, using command-line arguments.
 - c. No, this is available on Windows only.
 - d. No, this is not possible.
7. _____ keyword is used for accessing the features of a package.
- a. export
 - b. extends
 - c. import
 - d. package
8. The 'super' keyword is used to _____.
- a. access instance of child class
 - b. access instance of friend class
 - c. access instance of the parent class
 - d. access instance of the same class
9. When is a finally block executed in Java?
- a. After execution of Throws
 - b. Exception has occurred
 - c. Executed at last
 - d. Try block is executed without any exception
10. _____ method is used to add a component to a container in AWT.
- a. add()
 - b. addComponent()
 - c. setComponent()
 - d. setLayout()

11. _____ event is generated when a user clicks a button in AWT.
- ActionEvent
 - KeyEvent
 - MouseEvent
 - WindowEvent
12. _____ is used to register a mouse motion listener?
- AddMouse()
 - addMouseListener()
 - addMouseMotionListner()
 - AddMouseMotionListener()
13. _____ is invoked when a character is entered?
- keyEntered()
 - keyPressed()
 - keyReleased()
 - keyTyped()
14. _____ access modifier is implicitly applied to variables in an interface?
- default
 - private
 - protected
 - public

15. What is the output of the below program?

```
class Derived
{
    public void getDetails(String temp)
    {
        System.out.println("Derived class " + temp);
    }
}

public class Test extends Derived
{
    public int getDetails(String temp)
    {
        System.out.println("Test class " + temp);
        return 0;
    }
    public static void main(String[] args)
    {
        Test obj = new Test();
        obj.getDetails("ABC");
    }
}
```

- a. Derived class ABC
 - b. Test class ABC
 - c. Compilation error
 - d. Runtime error
16. In polymorphism, a reference variable of the superclass can refer to the object of which classes?
- a. Only the superclass
 - b. Only the subclass
 - c. Any class
 - d. The superclass or any of its subclasses
17. The built-in base class in Java, which is used to handle all exceptions is _____.
- a. Error
 - b. Exception
 - c. Raise
 - d. Throwable
18. _____ are the major components of the JDBC.
- a. DriverManager, Statement, and ResultSet
 - b. DriverManager, Driver, Connection, and Statement
 - c. DriverManager, Connection, Statement, and ResultSet
 - d. DriverManager, Driver, Connection, Statement, and ResultSet
19. _____ is used to perform DML statements in JDBC.
- a. execute()
 - b. executeQuery()
 - c. executeResult()
 - d. executeUpdate()
20. _____ can be used to obtain the coordinates of a mouse.
- a. getCoordinates()
 - b. getMouseCoordinates()
 - c. getMouseXY()
 - d. getPoint()

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Semester : II
F. M. : 40

SECTION "B"
[6 Q. × 4 = 24 marks]

Attempt *ANY SIX* questions.

1. How does JVM help Java programs to run across multiple platforms? Describe with a necessary diagram. [4]
2. Arrays are references. Justify this statement with necessary code examples. How can multiple arrays be merged/combined? [2 + 2]
3. Static fields belong to a class, not an object. Explain this statement using a Java example program. [4]
4. How does Java call the correct method? Describe with example codes. [4]
5. Explain static inner class with an example program. [4]
6. Write a Java program to illustrate displaying texts using GUI. [4]
7. Write a Java program that connects with a PostgreSQL database and displays the database metadata. [4]

SECTION "C"
[2Q × 8 = 16 marks]

Attempt *ALL* questions. Assume suitable data when necessary.

8. Write a Java program that handles Mouse Events for performing the following tasks. [8]
 - a) Draw a circle centered at the mouse location when the left mouse button is clicked.
 - b) Drag an existing circle to a new location.
9. Explain the purpose of an Adaptor class with an example. Write a Java program that catches multiple exceptions separately. [3 + 5]

