PROGRAMMING IN JAVA

Assignment 01

TYPE OF QUESTION: MCQ

Number of questions: 10 Total marks**: 10 × 1 = 10**

QUESTION 1:

Which of the following is true?

a. **Java uses only interpreter.**

b. **Java uses only compiler.**

c. **Java uses both interpreter and compiler.**

d. **None of the above.**

Correct Answer:

c. **Java uses both interpreter and compiler.**

Detailed Solution:

Creating a .class file from .java using javac command is a compilation task, whereas execution of a .class file using java is the process of interpretation.

QUESTION 2:

A Java file with extension '.class' contains

a. **Java source code**

b. **HTML tags**

c. **Java Byte code**

d. **A program file written in Java programming language**

Correct Answer:

c. **Java Byte code**

Detailed Solution:

A .class file is a compiled version of the .java file in byte code (it is a kind of object code with JVM (Java Virtual Machine) as the target machine.

QUESTION 3:

Which of the following is not an object-oriented programming paradigm?

a. **Encapsulation**

b. **Inheritance**

c. **Polymorphism**

d. **Dynamic memory allocation**

Correct Answer:

d. **Dynamic memory allocation**

Detailed Solution:

Dynamic memory allocation is a memory allocation strategy and not a programming paradigm.

QUESTION 4:

What will be the output of the following Java code?

```
class increment {

  public static void main(String args[]) {
    int g = 3;
    System.out.print(++g * 8);
  }
}
```

a. 32

b. 33

c. 24

d. 25

Correct Answer:

a. 32

Detailed Solution:

Operator `++` has more preference than `*`, thus `g` becomes 4 and when multiplied by 8 gives 32.

QUESTION 5:

What is the correct sequence of steps to execute a Java program?

I. **Compile the Program: Use the javac command to compile the code into bytecode.**
II. **Edit the Program: Write the code in a text editor or IDE.**
III. **Run the Program: Use the java command to execute the bytecode.**

Which of the following options represents this sequence?

a. **Run → Edit → Compile**

b. **Edit → Run → Compile**

c. **Compile → Edit → Run**

d. **Edit → Compile → Run**

Correct Answer:

d. **Edit → Compile → Run**

Detailed Solution:

The Java development process involves writing code (Edit), converting it to bytecode (Compile), and then executing it on the JVM (Run).

QUESTION 6:

Consider the following code.

```
class NPTEL {
    public static void main(String[] args) {
        System.out.println("Hello, World!");
    }
}
```

What is the output of the above code?

a. **Hello, World!**

b. **HelloWorld!**

c. **Compilation Error**

d. **Runtime Error**

Correct Answer:

a. **Hello, World!**

Detailed Solution:

Java program to print `Hello, World!`

QUESTION 7:

What is the primary focus of Java programming?

a. **Low-level optimizations**

b. **Hardware-specific operations**

c. **Platform independence**

d. **Assembly language programming**

Correct Answer:

c. **Platform independence**

Detailed Solution:

Java's primary feature is its ability to run on any platform without modification, thanks to the concept of Write Once, Run Anywhere (WORA).

QUESTION 8:

Which of the following programming principles is a key aspect of Java?

a. **Code obfuscation**

b. **Platform dependence**

c. **Object-oriented programming**

d. **Global variables**

Correct Answer:

c. **Object-oriented programming**

Detailed Solution:

Java is designed based on the principles of object-oriented programming, promoting concepts like encapsulation, inheritance, and polymorphism.

QUESTION 9:

What is the primary purpose of the Java Virtual Machine (JVM) in the Java programming language?

a. **Code optimization**

b. **Platform independence**

c. **Memory management**

d. **Hardware-specific operations**

Correct Answer:

b. **Platform independence**

Detailed Solution:

The Java Virtual Machine (JVM) enables platform independence by interpreting Java bytecode, allowing Java programs to run on any device with a compatible JVM.

QUESTION 10:

Consider the following program.

```
public class Question {
  public static void main(String[] args) {
    int x = 5;
    x *= (2 + 8);
    System.out.println(x);
  }
}
```

What is the output of the above code?

a. **50**

b. **10**

c. **Compiler error**

d. **5**

Correct Answer:

a. **50**

Detailed Solution:

Here, x *= 2 + 8 is equivalent to x * (2+ 8) => x * 10. Therefore, x = 50.