

Class 9 ICSE Term 1 Practice Paper

Total Marks: 80

Section A: Multiple Choice Questions (1 mark each)

Choose the correct option from the following:

1. Which paradigm does Java follow primarily?
a) Procedural b) Object-Oriented c) Functional d) Scripting
2. In Java, a class is a blueprint for creating:
a) Objects b) Methods c) Variables d) Libraries
3. Which of the following is NOT a primitive data type in Java?
a) int b) double c) string d) char
4. In Java, what is the correct way to declare an integer variable named "age"?
a) int age; b) int age = 18; c) integer age; d) variable age = int;
5. What is the result of the expression: $10 \% 3$?
a) 1 b) 2 c) 3 d) 0
6. Which Java keyword is used to create an instance of a class?
a) object b) new c) instance d) create
7. Which data type is used to store characters in Java?
a) char b) character c) string d) txt
8. What is the purpose of the Java Scanner class?
a) To scan for viruses in code
b) To read input from the user
c) To scan for errors in code
d) To format text output

9. Which of the following methods can be used to find the maximum of two numbers?

- a) Math.max() b) Math.min() c) Math.absolute() d) Math.compare()

10. In Java, which operator is used for logical AND?

- a) && b) || c) ! d) &

11. What is the default value of an uninitialized local variable of type int in Java?

- a) 0 b) 1 c) -1 d) The variable remains uninitialized

12. Which of the following is NOT a Java keyword?

- a) class b) object c) if d) while

13. What is the purpose of the "else" statement in Java conditional structures?

- a) To mark the beginning of a new condition
b) To terminate the program
c) To provide an alternative code block
d) To create a loop

14. Which operator is used for equality comparison in Java?

- a) = b) == c) === d) =

15. What is the result of the expression: true && false?

- a) true b) false c) null d) error

16. Which conditional statement allows for multiple alternatives to be checked?

- a) if b) else c) switch d) select

17. What does the expression (x > y) ? x : y do in Java?

- a) Compares x and y for equality b) Assigns y to x if x is greater than y
c) Assigns x to y if y is greater than x d) Returns the smaller of x and y

18. Which method is used to read an integer input from the user using Scanner?

- a) readInt() b) nextInt() c) getInt() d) inputInt()

19. The following Java code snippet will print:

```
int num = 5;  
if (num < 10) {  
    System.out.println("Less than 10");  
} else {  
    System.out.println("Greater than or equal to 10");  
}
```

- a) Less than 10 b) Greater than or equal to 10
- c) Error d) Nothing

20. Which mathematical function can be used to calculate the square root of a number?

- a) Math.squareRoot()
- b) Math.sqrt()
- c) Math.pow()
- d) Math.abs()

Section B: Answer Briefly (2 marks each)

Write a brief answer to the following questions:

21. Define class and object in Java.

22. Differentiate between instance variables and local variables.

23. How do you declare a constant in Java?

24. Explain the key principles of Object-Oriented Programming (OOP) and provide an example of a real-world entity that can be represented using OOP concepts.

25. Differentiate between a class and an object in Java. Provide an example to illustrate the difference.

26. Describe the purpose of data types in Java. Give examples of primitive data types and explain their significance.
27. Briefly explain the role of the "new" keyword in Java. How is it related to object creation?
28. What are arithmetic operators in Java? Provide examples of at least three different arithmetic operators and their usage.
29. Explain the significance of the "public static void main(String[] args)" method in Java. Why is it the entry point for Java applications?
30. How does the Java Scanner class facilitate user input? Provide a code example demonstrating how to use the Scanner class to read an integer from the user.
31. Briefly describe the purpose of the Math class in Java. Provide an example of a mathematical function that can be performed using methods from the Math class.
32. Differentiate between the "if" statement and the "switch" statement in Java. When would you prefer using one over the other?
33. Explain the concept of nesting conditional statements in Java. Provide an example of nested "if-else" statements to illustrate this concept.

Section C: Fill in the Blanks (1 mark each)

Fill in the blanks with the appropriate terms:

34. In Java, the process of creating an instance of a class is called _____.
35. The arithmetic _____ perform mathematical operations in Java.
36. The condition in an if statement is enclosed within _____.
37. In object-oriented programming, a _____ is a blueprint that defines the structure and behavior of objects.
38. Java supports various _____ data types, such as int, double, and char.

39. The arithmetic operator _____ is used for exponentiation in Java.
40. The _____ method is the entry point for any Java program.
41. The Java Scanner class is used to read _____ from the user.
42. The _____ class in Java provides mathematical functions for various calculations.
43. The conditional statement _____ allows you to check multiple conditions and execute different code blocks accordingly.
44. The _____ statement in Java is used to evaluate a condition and execute a block of code if the condition is true.

Section D: Find the Output (2 marks each)

Predict the output of the following code snippets:

45.

```
int x = 5;
if (x > 3) {
    System.out.println("Hello");
} else {
    System.out.println("Hi");
}
```

46.

```
int a = 5, b = 2;
System.out.println(a / b);
```

47.

```
int x = 10;
System.out.println(x++);
System.out.println(++x);
```

48.

```
int num = 15;
if (num > 10)
    System.out.println("Greater than 10");
else if (num < 10)
    System.out.println("Less than 10");
else
    System.out.println("Equal to 10");
```

49. [The user enters 25]

```
Scanner scanner = new Scanner(System.in);
System.out.print("Enter a number: ");
int num = scanner.nextInt();
System.out.println("You entered: " + num);
```

50.

```
int x = 5, y = 7;
if (x > y) {
    System.out.println("x is greater");
} else if (y > x) {
    System.out.println("y is greater");
} else {
    System.out.println("x and y are equal");
}
```

Section E: Programming Questions

Write Java programs for the following:

51. Write a program to find and print the sum, difference and multiplication of two numbers input by the user. (5 Marks)

52. Create a class called Circle with a method to calculate and return the area of the circle. (5 marks)

53. A mega Mall has different floors as follows

- | | |
|----------------------------|-----------------|
| 1. ground floor: kids wear | 2. Ladies wear. |
| 3. Designer wear | 4. Mens wear. |

Write a Java code to take input the floor number and accordingly display the floor category along with the names pieces of clothes from that floor.

Sample Output:

Enter floor number: 4

Welcome to Men's wear

You get: Formal Shirt , formal Jeans

(7 marks)