**Question Paper 50 Marks**

**Part A: Multiple Choice Questions (15 marks)**

Choose the correct option for each of the following questions. Each question carries 1 mark.

1. Which of the following is a valid way to declare a variable of type int in Java?

(a) int x;

(b) int x = 10;

(c) int x = new int();

(d) All of the above

2. Which of the following is a valid way to create an object of a class named Student in Java?

(a) Student s = new Student();

(b) Student s = Student();

(c) Student s;

(d) None of the above

3. Which of the following is an example of a unary operator in Java?

(a) +

(b) ++

(c) &&

(d) ==

4. Which of the following keywords is used to make a decision based on a condition in Java?

(a) if

(b) switch

(c) case

(d) either (a) or (b)

5. Which of the following keywords is used to repeat a block of code until a condition is false in Java?

(a) for

(b) while

c) do-while

(d) any of the above

6. What is the output of the following code snippet in Java?

int x = 10;

int y = 20;

if (x > y) {

System.out.println("x is greater than y");

} else {

System.out.println("x is less than or equal to y");

}

(a) x is greater than y

(b) x is less than or equal to y

c) x is equal to y

(d) Compilation error

7. What is the output of the following code snippet in Java?

int x = 10;

int y = 20;

switch (x + y) {

case 10:

System.out.println("The sum is 10");

break;

case 20:

System.out.println("The sum is 20");

break;

case 30:

System.out.println("The sum is 30");

break;

default:

System.out.println("The sum is something else");

}

(a) The sum is 10

(b) The sum is 20

c) The sum is 30

(d) The sum is something else

8. What is the output of the following code snippet in Java?

for (int i = 1; i <= 5; i++) {

System.out.print(i + " ");

}

(a) 1 2 3 4 5

(b) 1 2 3 4

(c) 2 3 4 5

(d) 2 3 4 5 6

9. What is the output of the following code snippet in Java?

int i = 1;

while (i <= 5) {

System.out.print(i + " ");

i++;

}

(a) 1 2 3 4 5

(b) 1 2 3 4

© 2 3 4 5

(d) 2 3 4 5 6

10. What is the output of the following code snippet in Java?

int i = 1;

do {

System.out.print(i + " ");

i++;

} while (i <= 5);

(a) 1 2 3 4 5

(b) 1 2 3 4

(c) 2 3 4 5

(d) 2 3 4 5 6

11. What is the difference between a class and an object in Java?

(a) A class is a blueprint for creating objects, while an object is an instance of a class

(b) A class is a collection of objects, while an object is a single entity

(c) A class is a type of object, while an object is a value of a class

(d) There is no difference between a class and an object in Java

12. What is the purpose of the main method in a Java program?

(a) It is the entry point for the execution of the program

(b) It is the method that contains the logic of the program

c) It is the method that returns the result of the program

(d) It is the method that creates the objects of the program

14. What is the syntax for declaring a method in Java?

(a) [access modifier] [return type] [method name] ([parameters]) { [method body] }

(b) [return type] [access modifier] [method name] ([parameters]) { [method body] }

c) [method name] [access modifier] [return type] ([parameters]) { [method body] }

(d) [access modifier] [method name] [return type] ([parameters]) { [method body] }

15. What is the meaning of the keyword this in Java?

(a) It refers to the current object

(b) It refers to the current class

c) It refers to the current method

(d) It refers to the current package

14. What is the meaning of the keyword static in Java?

(a) It means that the variable or method belongs to the class and not to any object

(b) It means that the variable or method can be accessed without creating an object

c) It means that the variable or method can be shared by all the objects of the class

(d) All of the above

**Part B: Fill in the Blanks (5 marks)**

1. Fill in the blanks with the appropriate words or symbols. Each question carries 1 mark.
2. A \_\_\_\_\_\_\_\_\_ is a named memory location that can store a value of a specific type in Java.
3. A \_\_\_\_\_\_\_\_\_ is a sequence of characters enclosed by double quotes in Java.
4. The \_\_\_\_\_\_\_\_\_ operator is used to concatenate two strings in Java.
5. The \_\_\_\_\_\_\_\_\_ keyword is used to define a new class in Java.
6. The \_\_\_\_\_\_\_\_\_ keyword is used to inherit the features of another class in Java.

**Part C: Short Answer Questions (10 marks)**

Answer the following questions in one sentence each. Each question carries 1 mark.

1. What is the difference between primitive and reference types in Java?
2. Write a Java if statement to check if a variable temperature is above 30 degrees Celsius.
3. Explain the purpose of the else clause in a Java if-else statement with an example.
4. Use a Java Math library method to calculate the power of 2 raised to the exponent 3.
5. What is the significance of the Math.random() method in Java, and how is it commonly used?
6. Explain the use of the += operator in Java with a simple example.
7. Describe the purpose of the || (logical OR) operator in Java.
8. Write a Java for loop to print the odd numbers from 1 to 9.
9. How does a Java do-while loop differ from a while loop? Provide an example.
10. Use a Java for loop to calculate the factorial of a given number n.
11. Briefly describe the difference between 'for' and 'while' loops in Java.
12. int x = 11, int y = 6;

int m = (x++ - y + x) / 2;