

Group A

Multiple Choice Question (30 Questions)

$$30 * 1 = 30$$

- Which one of the following is not a Java feature?
 - Object-oriented
 - Use of pointers**
 - Portable
 - Dynamic and Extensible
- Which component is used to compile, debug and execute the java programs?
 - JRE
 - JIT
 - JDK**
 - JVM
- Which environment variable is used to set the java path?
 - MAVEN_Path
 - JavaPATH
 - JAVA
 - JAVA_HOME**
- What will be the error in the following Java code?

```
byte b = 50;
```

```
b = b * 50;
```

- a) b cannot contain value 50
 - b) b cannot contain value 100, limited by its range
 - c) No error in this code
 - d) * operator has converted b * 50 into int, which can not be converted to byte without casting**
5. Which of the following is not an OOPS concept in Java?
- | | |
|-----------------------|------------------|
| a) Polymorphism | b) Inheritance |
| c) Compilation | d) Encapsulation |
6. What is the output of following Program?

```
class variable_scope
{
    public static void main(String args[])
    {
        int x;
        x = 5;
        {
            int y = 6;
            System.out.print(x + " " + y);
        }
    }
}
```

```

    }
    System.out.println(x + " " + y);
  }
}

```

a) **Compilation error**

b) Runtime error

c) 5 6 5 6

d) 5 6 5

7. Which of these are selection statements in Java?

a) break

b) continue

c) for()

d) if()

8. What is the output of following code?

```

class Output
{
    public static void main(String args[])
    {
        int arr[] = {1, 2, 3, 4, 5};
        for (int i = 0; i < arr.length - 2; ++i)
            System.out.println(arr[i] + " ");
    }
}

```

a) 1 2 3 4 5

b) 1 2 3 4

c) 1 2

d) 1 2 3

9. Which of the following is true about servlets?

a) Servlets can use the full functionality of the Java class libraries

b) Servlets execute within the address space of web server, platform independent and uses the functionality of java class libraries

c) Servlets execute within the address space of web server

d) Servlets are platform-independent because they are written in java

10. Which of the following is a valid declaration of an object of class Box?

a) Box obj = new Box();

b) Box obj = new Box;

c) obj = new Box();

d) new Box obj;

11. Which of the following statements is correct?

- a) **Public method is accessible to all other classes in the hierarchy**
- b) Public method is accessible only to subclasses of its parent class
- c) Public method can only be called by object of its class
- d) Public method can be accessed by calling object of the public class

12. What is true about private constructor?

- a) **Private constructor ensures only one instance of a class exist at any point of time**
- b) Private constructor ensures multiple instances of a class exist at any point of time
- c) Private constructor eases the instantiation of a class
- d) Private constructor allows creating objects in other classes

13. Which of these is used as a default for a member of a class if no access specifier is used for it?

- a) **private**
- b) public
- c) public, within its own package
- d) protected

14. Which of the following modifier means a particular variable cannot be accessed within the package?

- a) **private**
- b) public
- c) protected
- d) default

15. Which of these methods must be made static?

- a) main()
- b) delete()
- c) run()
- d) finalize()

16. What will be output of following code?

```
class access
{
    static int x;
    void increment()
    {
        x++;
    }
}
class static_use
{
    public static void main(String args[])
    {
        access obj1 = new access();
```

```

        access obj2 = new access();
        obj1.x = 0;
        obj1.increment();
        obj2.increment();
        System.out.println(obj1.x + " " + obj2.x);
    }
}

```

a) 1 2

b) 1 1

c) 2 2

d) Compilation Error

17. What is the process of defining a method in a subclass having same name & type signature as a method in its superclass?

a) Method overloading

b) Method overriding

c) Method hiding

d) None of the mentioned

18. Which of these keywords can be used to prevent inheritance of a class?

a) super

b) constant

c) class

d) final

19. Which of these keywords are used to define an abstract class?

a) abst

b) abstract

c) Abstract

d) abstract class

20. Which of these packages contains abstract keyword?

a) java.lang

b) java.util

c) java.io

d) java.system

21. Which of the following is true about servlets?

a) Servlets execute within the address space of web server

b) Servlets are platform-independent because they are written in java

c) Servlets can use the full functionality of the Java class libraries

d) Servlets execute within the address space of web server, platform independent and uses the functionality of java class libraries

22. Which of these keywords is used to define interfaces in Java?

a) interface

b) Interface

c) intf

d) Intf

23. Which of these keywords is used by a class to use an interface defined previously?

a) import

b) Import

c) implements

d) Implements

24. When does Exceptions in Java arises in code sequence?

- a) **Run Time**
- b) Compilation Time
- c) Can Occur Any Time
- d) None of the mentioned

25. Which of these keywords must be used to monitor for exceptions?

- a) **try**
- b) finally
- c) throw
- d) catch

26. What will be the output of the following code?

```
class exception_handling
{
    public static void main(String args[])
    {
        try
        {
            System.out.print("Hello" + " " + 1 / 0);
        }
        catch(ArithmeticException e)
        {
            System.out.print("World");
        }
    }
}
```

- a) Hello
- b) **World**
- c) HelloWorld
- d) Hello World

27. Which Scanner class method is used to read string value from the user?

- a) next()
- b) nextString()
- c) nextLine()
- d) **Both 1 and 3**

28. Which method is used to write a byte to the current output stream?

- a) **public void write(int) throws IOException**
- b) public void write(byte[]) throws IOException
- c) public void flush() throws IOException
- d) public void close() throws IOException

29. Which of these exception is thrown in cases when the file specified for writing is not found?

- a) IOException
- b) FileNotFoundException
- c) **FileNotFoundException**
- d) FileInputException

30. Which of these methods are used to read in from file?

- a) get()
- b) read()
- c) scan()
- d) readFileInput()

Group B

Answer any 5 out of 8 questions.

$$5 * 6 = 8$$

1. What is loop in Java? What is the difference between while-do and do-while loops? Explain With a popper example.
2. A sales tax of 7% is levied on all goods and services consumed. It is also mandatory that all the price tags should include the sales tax. For example, if an item has a price tag of \$107, the actual price is \$100 and \$7 goes to the sales tax. Write a program using a loop to continuously input the tax-inclusive price (in double); compute the actual price and the sales tax (in double); and print the results rounded to 2 decimal places. The program shall terminate in response to input of -1; and print the total price, total actual price, and total sales tax
3. Write a Java Program to check whether a word entered by user is palindrome or not.
4. Explain the history of Java. Also list down some advantages of using Java.
5. Explain servlet life cycle in detail.
6. What is Error Handling in Java? Explain the working mechanism of try, catch and finally with examples.
7. Write a Java Program to print the following pattern.

1 2 3 4 5

1 2 3 4

1 2 3

1 2

1

8. Write a Java Program to calculate circumference of a circle. Allow the user to input the value of radius.

Group C

Answer any two out of three

$$20 * 2 = 40$$

1. What do you understand about Java? What are its features? Explain 5 features of object oriented programming with examples of each in Java.

2. Create a class called Book to represent a book. A Book should include four pieces of information as instance variables: a book name, an ISBN number, an author name and a publisher. Your class should have a constructor that initializes the four instance variables. Provide a mutator method and accessor method (query method - getter and setter) for each instance variable. In Addition, provide a method named getBookInfo that returns the description of the book as a String (the description should include all the information about the book). Write Program to get input of book from user and later display the information entered by user.

3. Write Short Notes on following : (any four)
 - a) Method overloading
 - b) Data Types in Java
 - c) Switch Statement with example
 - d) Life cycle of Servlet
 - e) Cookies