**OOPs Concepts (1–10)**

**1.** Which of the following best defines encapsulation?  
A) Wrapping data and code together as a single unit  
B) Deriving new classes from existing ones  
C) Hiding implementation details  
D) Both A and C  
✅ **Answer:** D

**2.** Inheritance in Java is achieved using:  
A) extends  
B) implements  
C) Both A and B  
D) None of the above  
✅ **Answer:** C

**3.** What is method overloading?  
A) Same method name with different parameter list  
B) Same method name with different return type  
C) Same method in subclass  
D) None of the above  
✅ **Answer:** A

**4.** Which keyword prevents inheritance?  
A) abstract  
B) static  
C) final  
D) const  
✅ **Answer:** C

**5.** Which of the following supports runtime polymorphism?  
A) Method overloading  
B) Method overriding  
C) Constructor overloading  
D) Static binding  
✅ **Answer:** B

**6.** Abstract classes can have:  
A) Only abstract methods  
B) Only concrete methods  
C) Both abstract and concrete methods  
D) None  
✅ **Answer:** C

**7.** Which keyword is used to access the parent class constructor?  
A) super()  
B) this()  
C) parent()  
D) base()  
✅ **Answer:** A

**8.** Interfaces can have which of the following from Java 8 onwards?  
A) Only abstract methods  
B) Default and static methods  
C) Concrete methods  
D) Constructors  
✅ **Answer:** B

**9.** Which concept allows different classes to be treated as the same type?  
A) Inheritance  
B) Abstraction  
C) Polymorphism  
D) Encapsulation  
✅ **Answer:** C

**10.** What is not true about constructors?  
A) Constructors can be overloaded  
B) Constructors have no return type  
C) Constructors can be called directly like methods  
D) Constructors initialize objects  
✅ **Answer:** C

**☕ Core Java (11–20)**

**11.** JVM stands for:  
A) Java Variable Machine  
B) Java Virtual Machine  
C) Java Visual Manager  
D) None  
✅ **Answer:** B

**12.** Which of these is not a Java primitive type?  
A) int  
B) boolean  
C) String  
D) float  
✅ **Answer:** C

**13.** The main method must be declared as:  
A) public static void main(String args[])  
B) public void main(String args[])  
C) static public void main()  
D) public static main(String args[])  
✅ **Answer:** A

**14.** Which of the following cannot be used as a variable name?  
A) main  
B) class  
C) one  
D) MAX\_VALUE  
✅ **Answer:** B

**15.** Which keyword is used to import packages in Java?  
A) include  
B) import  
C) package  
D) extends  
✅ **Answer:** B

**16.** What is the default value of a local variable?  
A) 0  
B) null  
C) Depends on type  
D) No default value (must be initialized)  
✅ **Answer:** D

**17.** Which of these are wrapper classes?  
A) int  
B) double  
C) Integer  
D) void  
✅ **Answer:** C

**18.** == checks \_\_\_\_\_\_\_ for objects.  
A) Reference equality  
B) Value equality  
C) Memory equality  
D) None  
✅ **Answer:** A

**19.** What is the size of a char in Java?  
A) 1 byte  
B) 2 bytes  
C) 4 bytes  
D) 8 bytes  
✅ **Answer:** B

**20.** Which of the following is not a Java keyword?  
A) native  
B) transient  
C) goto  
D) include  
✅ **Answer:** D

**⚠️ Exception Handling (21–25)**

**21.** All exceptions are subclasses of:  
A) Error  
B) Exception  
C) Throwable  
D) RuntimeException  
✅ **Answer:** C

**22.** Which of these are checked exceptions?  
A) NullPointerException  
B) IOException  
C) ArithmeticException  
D) ArrayIndexOutOfBoundsException  
✅ **Answer:** B

**23.** The finally block executes:  
A) Only if an exception occurs  
B) Only if no exception occurs  
C) Always executes  
D) Only if catch block is not executed  
✅ **Answer:** C

**24.** Which keyword is used to manually throw an exception?  
A) throws  
B) throw  
C) catch  
D) final  
✅ **Answer:** B

**25.** What happens if an exception is not caught?  
A) Program crashes  
B) JVM terminates program  
C) JVM handles it silently  
D) It gets logged and continues  
✅ **Answer:** B

**🧵 String (26–30)**

**26.** Strings in Java are:  
A) Mutable  
B) Immutable  
C) Static  
D) Final but mutable  
✅ **Answer:** B

**27.** StringBuilder is:  
A) Thread-safe  
B) Mutable  
C) Immutable  
D) Both A and B  
✅ **Answer:** B

**28.** Which method compares string values (not references)?  
A) ==  
B) equals()  
C) compareToIgnoreCase()  
D) equalsIgnoreCase()  
✅ **Answer:** B

**29.** What does "Java".concat("World") return?  
A) JavaWorld  
B) Error  
C) Java World  
D) WorldJava  
✅ **Answer:** A

**30.** StringBuffer is synchronized whereas StringBuilder is not.  
✅ **Answer:** True

**🧺 Collections Framework (31–37)**

**31.** Which interface is implemented by all collections in Java?  
A) Map  
B) Collection  
C) Iterable  
D) Set  
✅ **Answer:** C

**32.** Which class implements a dynamic array?  
A) LinkedList  
B) ArrayList  
C) HashMap  
D) HashSet  
✅ **Answer:** B

**33.** Which collection does not allow duplicate elements?  
A) List  
B) Map  
C) Set  
D) Queue  
✅ **Answer:** C

**34.** HashMap allows:  
A) Duplicate keys  
B) One null key  
C) No null values  
D) Synchronized access  
✅ **Answer:** B

**35.** Which is faster for insertion/removal at beginning?  
A) ArrayList  
B) LinkedList  
C) Vector  
D) HashSet  
✅ **Answer:** B

**36.** TreeSet sorts elements by:  
A) Insertion order  
B) HashCode  
C) Natural order  
D) None  
✅ **Answer:** C

**37.** Which interface defines the put() and get() methods?  
A) List  
B) Set  
C) Map  
D) Collection  
✅ **Answer:** C

**🧠 Mixed / Advanced (38–40)**

**38.** Which keyword is used for garbage collection request?  
A) finalize()  
B) dispose()  
C) System.gc()  
D) collect()  
✅ **Answer:** C

**39.** What is the output of:

System.out.println(10 + 20 + "Java");

A) Java30  
B) 30Java  
C) 1020Java  
D) Error  
✅ **Answer:** B

**40.** Which of these can be used with lambda expressions?  
A) Abstract class  
B) Interface with one abstract method  
C) Interface with multiple methods  
D) Any class  
✅ **Answer:** B