JAVA

OOPS – MEDIUM LEVEL

1. Which statement is true about **method overriding** in Java?
   A) Method name and parameters must be different
   B) Return type can be different without restriction
   C) Access level cannot be more restrictive
   D) Static methods can be overridden
   Answer: C

2. Which of these allows a child class to access a parent's private members?
   A) super keyword
   B) this keyword
   C) getters/setters in parent
   D) protected access
   Answer: C

3. Which of the following is an example of **runtime polymorphism**?
   A) Method overloading
   B) Operator overloading
   C) Method overriding
   D) Constructor chaining
   Answer: C

4. In Java, when a class implements multiple interfaces with conflicting method signatures:
   A) Compilation error occurs
   B) Only first interface method is inherited
   C) The class must override the method
   D) JVM resolves automatically
   Answer: C

5. Which keyword is used to prevent method overriding?
   A) static
   B) final
   C) abstract
   D) super
   Answer: B

6. Which of these supports multiple inheritance in Java?
   A) Classes only
   B) Interfaces only
   C) Both classes and interfaces
   D) Neither
   Answer: B

7. Which principle is violated when a subclass depends heavily on superclass implementation details?
   A) Polymorphism
   B) Encapsulation
   C) Tight coupling
   D) Abstraction
   Answer: C

8. What happens if a subclass does not implement all methods of an interface?
   A) Compilation succeeds
   B) Subclass must be abstract
   C) JVM adds default implementation
   D) Runtime error
   Answer: B

9. Which access modifier allows a member to be visible in subclasses but not outside the package?
   A) private
   B) public
   C) protected
   D) default
   Answer: C

10. Which OOP feature is achieved using **interfaces** in Java?
    A) Encapsulation
    B) Multiple inheritance
    C) Method overloading
    D) Data hiding
    Answer: B

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11. Which constructor is invoked first in inheritance?
    A) Child class constructor
    B) Parent class constructor
    C) Depends on object created
    D) None
    Answer: B

12. Which is true about abstract classes?
    A) Can't have concrete methods
    B) Must have at least one abstract method
    C) Can have both abstract and concrete methods
    D) Must always implement an interface
    Answer: C

13. What happens when you declare a method as abstract in a concrete class?
    A) Compiles successfully
    B) Compile-time error
    C) Converts class to abstract automatically

D) Runtime error
Answer: B

14. Which of these best describes **dynamic method dispatch**?
    A) Method resolution during compile time
    B) Method resolution during runtime
    C) Method overloading resolution
    D) Constructor chaining
    Answer: B

15. Which keyword allows access to immediate parent class object?
    A) this
    B) super
    C) base
    D) parent
    Answer: B

16. Which is true about final variables in Java?
    A) They can be reassigned once initialized
    B) They must be initialized before constructor ends
    C) They cannot be static
    D) They can only be private
    Answer: B

17. What is the default value of an object reference if not initialized?
    A) null
    B) 0
    C) undefined
    D) garbage value
    Answer: A

18. Which keyword is used to restrict object creation for a class?
    A) final
    B) private constructor
    C) abstract
    D) static
    Answer: B

19. Which method is called automatically before garbage collection?
    A) delete()
    B) dispose()
    C) finalize()
    D) clean()
    Answer: C

20. Which of these is NOT a valid use of polymorphism?
    A) Same operator behaving differently
    B) Method overriding
    C) Method overloading
    D) Private methods in subclass
    Answer: D

21. Which is true about constructor chaining?
    A) Only occurs in inheritance
    B) Can occur in same class using this()
    C) Always requires super() call
    D) Cannot be used in abstract class
    Answer: B

22. Which method in Object class returns a string representation of object?
    A) toString()
    B) hashCode()
    C) getClass()
    D) equals()
    Answer: A

23. Which OOP concept ensures that subclass can replace superclass objects safely?
    A) Polymorphism
    B) Encapsulation
    C) Liskov Substitution Principle
    D) Abstraction
    Answer: C

24. Which operator is used to check if an object belongs to a particular class?
    A) instanceOf
    B) instanceof
    C) is
    D) belongsTo
    Answer: B

25. Which OOP concept enables defining methods in an interface without implementation?
    A) Encapsulation
    B) Abstraction
    C) Polymorphism
    D) Aggregation
    Answer: B

26. Which is the correct order of constructor execution in inheritance?
    A) Child → Parent
    B) Parent → Child
    C) Random order
    D) JVM decides
    Answer: B

27. Which of these allows multiple constructors with different signatures?
    A) Constructor overloading
    B) Constructor overriding
    C) Abstract constructors
    D) Dynamic constructor
    Answer: A

28. Which of these is NOT inherited by subclasses?
    A) Private members
    B) Protected members
    C) Public members
    D) Instance variables
    Answer: A

29. Which method compares two objects based on their content?
    A) == operator
    B) equals()
    C) compareTo()
    D) hashCode()
    Answer: B

30. Which OOP principle is violated when data members are public?
    A) Inheritance
    B) Encapsulation
    C) Abstraction
    D) Polymorphism
    Answer: B

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31. Which class cannot be instantiated but can be extended?
    A) Interface
    B) Abstract class
    C) Final class
    D) Static class
    Answer: B

32. Which is true about overriding methods?
    A) Overriding method can throw any exception
    B) Overriding method cannot throw broader checked exceptions
    C) Overriding method must throw exactly same exception
    D) Exceptions don't matter in overriding
    Answer: B

33. What happens if two interfaces have same method signature and a class implements both?
    A) Compilation error
    B) JVM decides at runtime
    C) Class needs to provide implementation only once
    D) Interface methods are ignored
    Answer: C

34. Which of these is NOT part of OOP in Java?
    A) Aggregation
    B) Composition
    C) Encapsulation
    D) Recursion
    Answer: D

35. Which keyword allows subclass to inherit from only one class?
    A) extends
    B) implements
    C) inherit
    D) abstract
    Answer: A

36. Which concept binds data and related methods as one unit?
    A) Inheritance
    B) Polymorphism
    C) Encapsulation
    D) Abstraction
    Answer: C

37. Which access modifier allows maximum visibility?
    A) private
    B) default
    C) protected
    D) public
    Answer: D

38. Which keyword is used for inner classes?
    A) this
    B) static
    C) class inside class
    D) nested
    Answer: C

39. Which of the following describes HAS-A relationship?
    A) Aggregation
    B) Inheritance
    C) Polymorphism
    D) Abstraction
    Answer: A

40. Which OOP principle allows different objects to respond differently to the same method call?
    A) Polymorphism
    B) Encapsulation
    C) Inheritance
    D) Abstraction
    Answer: A

41. Which of these cannot be declared abstract?
    A) Class
    B) Method
    C) Variable
    D) None
    Answer: C

42. Which method is used for object cloning in Java?
    A) copy()
    B) clone()
    C) duplicate()
    D) replicate()
    Answer: B

43. Which exception occurs when accessing a null object?
    A) NullReferenceException
    B) NullPointerException
    C) ObjectNotFoundException
    D) IllegalAccessException
    Answer: B

44. Which is NOT true about final methods?
    A) Cannot be overridden
    B) Can be overloaded
    C) Must be abstract
    D) Can belong to final class
    Answer: C

45. Which operator allocates memory dynamically in Java?
    A) new
    B) malloc
    C) alloc
    D) calloc
    Answer: A

46. Which of these is true about static blocks?
    A) Executes only once when class is loaded
    B) Executes every time object is created
    C) Must return a value
    D) Can only initialize instance variables
    Answer: A

47. Which allows achieving polymorphism with interfaces?
    A) Method overloading
    B) Method overriding
    C) Multiple interfaces
    D) Constructor chaining
    Answer: B

48. Which keyword prevents further extension of a class?
    A) abstract
    B) static
    C) final
    D) private
    Answer: C

49. Which OOP principle deals with exposing only necessary details to the user?
    A) Abstraction

B) Encapsulation
C) Inheritance
D) Polymorphism
Answer: A

50. Which method in Object class is used to compare memory addresses of objects?
A) == operator
B) equals()
C) hashCode()
D) getClass()
Answer: A