Multiple Choice Quiz: Object-Oriented Programming and Java

1. What is a class in Java?

   - A) An instance of an object
   - B) A blueprint for objects
   - C) A method
   - D) A variable

2. What is an object in Java?

   - A) A template for methods
   - B) An instance of a class
   - C) A data type
   - D) A loop

3. What is the purpose of a constructor in Java?

   - A) To delete an object
   - B) To initialize an object
   - C) To override a method
   - D) To declare a variable

4. Which constructor is automatically provided if none is defined?

   - A) Parameterized
   - B) Default
   - C) Copy
   - D) Abstract

5. What does the `new` keyword do in Java?

   - A) Declares a variable
   - B) Allocates memory for an object
   - C) Defines a method
   - D) Inherits a class

6. What does the `this` keyword refer to?

   - A) A static method
   - B) The current object
   - C) A parent class
   - D) A new object

7. How do you declare an array in Java?

   - A) int array[];
   - B) int[] array;
   - C) array int[];
   - D) int array();

8. What is the index of the first element in a Java array?

- A) 1
- B) 0
- C) -1
- D) 2

9. Which keyword is used for inheritance in Java?

- A) implements
- B) extends
- C) inherits
- D) super

10. Which type of inheritance is NOT supported directly in Java?

- A) Single
- B) Multilevel
- C) Multiple
- D) Hierarchical

11. Which access modifier allows access only within the same class?

- A) public
- B) protected
- C) private
- D) default

12. Which access modifier allows access in the same package and subclasses?

- A) private
- B) protected
- C) public
- D) default

13. What is method overloading in Java?

- A) Redefining a method in a subclass
- B) Multiple methods with the same name but different parameters
- C) Hiding a method
- D) Calling a method recursively

14. What is method overriding in Java?

- A) Defining multiple methods with the same name
- B) Redefining a parent class method in a subclass
- C) Declaring a private method
- D) Creating an abstract method

15. What does encapsulation in Java involve?

- A) Exposing all fields publicly
- B) Hiding data with private fields and public methods
- C) Inheriting multiple classes
- D) Defining abstract methods

16. Which keyword is used to define an abstract class?

- A) class
- B) abstract
- C) interface
- D) static

17. Can you create an object of an abstract class?

- A) Yes
- B) No
- C) Only with `new`
- D) Only with `this`

18. What annotation is used for method overriding?

- A) @Override
- B) @Abstract
- C) @Static
- D) @Private

19. What is the output of this code? `int[] arr = {1, 2, 3}; System.out.println(arr[1]);`

- A) 1
- B) 2
- C) 3
- D) Error

20. What does the `protected` modifier allow in a different package?

- A) Access to all classes
- B) Access only to subclasses
- C) No access
- D) Access within the class only

21. What is the purpose of a getter method in encapsulation?

- A) Modify private fields
- B) Access private fields
- C) Create objects
- D) Inherit classes

22. What happens if you try to access a `private` field directly outside its class?

- A) It works
- B) Compilation error
- C) Runtime error
- D) No output