**Generated MCQs**

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**Q1: What term describes wrapping attributes and operations into objects?**

A) Inheritance

B) Polymorphism

**C) Encapsulation**

D) Abstraction

**Correct Answer: C**

**Q2: What does information hiding mean in the context of objects?**

A) Objects can access all details of other objects.

**B) Implementation details of objects are hidden from other objects.**

C) Objects share all their attributes publicly.

D) Only object methods are hidden, not attributes.

**Correct Answer: B**

**Q3: Which programming language mentioned is primarily procedural?**

A) Java

B) C++

**C) C**

D) Python

**Correct Answer: C**

**Q4: In Java, what is the basic unit of programming from which objects are created?**

A) Function

B) Procedure

C) Method

**D) Class**

**Correct Answer: D**

**Q5: What is the relationship of a class to an object often compared to?**

A) A car to an engine

**B) A blueprint to a house**

C) A function to a program

D) A variable to data

**Correct Answer: B**

**Q6: What is a major benefit of reusing existing classes in software development?**

A) It makes programs more complex.

B) It increases the cost of development.

**C) It saves time and effort, and improves reliability.**

D) It reduces the need for testing.

**Correct Answer: C**

**Q7: Which programming paradigm organizes a program around data (objects) and interfaces to that data?**

A) Procedural programming

B) Process-oriented programming

**C) Object-oriented programming**

D) Functional programming

**Correct Answer: C**

**Q8: What is a common characteristic of Procedural Oriented Programming (POP)?**

A) Emphasis is on data rather than doing actions.

B) Data is hidden within objects.

**C) Emphasis is on doing actions (functions).**

D) It follows a bottom-up approach.

**Correct Answer: C**

**Q9: Which Java buzzword relates to its ability to handle memory allocation and deallocation automatically?**

A) Simple

B) Secure

C) Portable

**D) Robust**

**Correct Answer: D**

**Q10: What allows Java programs to run on different types of CPUs under different environments?**

A) Multithreading

**B) Architecture-neutral design**

C) Robustness

D) Simplicity

**Correct Answer: B**

**Q11: Which Java Edition is geared toward developing applications for small, memory-constrained devices like cell phones?**

A) Java Standard Edition (Java SE)

B) Java Enterprise Edition (Java EE)

**C) Java Micro Edition (Java ME)**

D) JavaFX

**Correct Answer: C**

**Q12: What data type is used for whole-valued signed numbers like byte, short, int, and long?**

A) Floating-point numbers

B) Characters

**C) Integers**

D) Boolean

**Correct Answer: C**

**Q13: Which data type represents numbers with fractional precision, like float and double?**

A) Integers

**B) Floating-point numbers**

C) Characters

D) Boolean

**Correct Answer: B**

**Q14: What is the data type used in Java to store single characters like letters and numbers?**

A) String

B) int

**C) char**

D) byte

**Correct Answer: C**

**Q15: What data type is used for representing true/false values?**

A) int

B) float

C) char

**D) boolean**

**Correct Answer: D**

**Q16: What is the basic unit of storage in a Java program, defined by an identifier, type, and optional initializer?**

A) Class

B) Method

**C) Variable**

D) Object

**Correct Answer: C**

**Q17: What is a group of like-typed variables referred to by a common name called?**

A) Class

B) Object

C) Method

**D) Array**

**Correct Answer: D**

**Q18: How is a specific element in an array accessed?**

A) By its name

B) By its type

**C) By its index**

D) By its value

**Correct Answer: C**

**Q19: Which operator is used for assigning a value to a variable?**

A) ==

B) +

**C) =**

D) \*

**Correct Answer: C**

**Q20: Which control statement is used for conditional execution based on a boolean condition?**

A) for

B) while

C) switch

**D) if**

**Correct Answer: D**

**Q21: Which statement provides a multiway branch based on the value of an expression?**

A) if

B) for

C) while

**D) switch**

**Correct Answer: D**

**Q22: Which loop statement repeats a block of code while its controlling expression is true?**

A) do-while

B) for

**C) while**

D) switch

**Correct Answer: C**

**Q23: What does the `new` operator do in Java?**

A) Declares a variable

**B) Dynamically allocates memory for an object**

C) Calls a method

D) Defines a class

**Correct Answer: B**

**Q24: Which access specifier allows a member to be accessed only by other members of its own class?**

A) public

B) protected

**C) private**

D) default

**Correct Answer: C**

**Q25: What is the term for defining two or more methods within the same class that share the same name but have different parameter declarations?**

A) Inheritance

B) Overriding

**C) Overloading**

D) Encapsulation

**Correct Answer: C**

**Q26: How are simple data types like int passed as arguments to methods in Java?**

A) Call-by-reference

B) Call-by-name

**C) Call-by-value**

D) Call-by-object

**Correct Answer: C**

**Q27: What is the process of defining something in terms of itself, often used when a method calls itself?**

A) Iteration

B) Encapsulation

**C) Recursion**

D) Abstraction

**Correct Answer: C**

**Q28: Are objects of type String in Java mutable or immutable?**

A) Mutable (can be changed)

**B) Immutable (cannot be changed once created)**

C) Both mutable and immutable

D) Neither mutable nor immutable

**Correct Answer: B**

**Q29: Which String method is used to obtain the number of characters in a String?**

A) getSize()

**B) length()**

C) count()

D) charAt()

**Correct Answer: B**

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