

# C++ Exam

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# C++ Exam - Varianta 1

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**1. Which of the following is the correct way to declare a reference in C++?**

- (A) int &ref = variable;
- (B) int &ref == variable;
- (C) int ref& = variable;
- (D) int \*ref = &variable;
- (E) int ref = &variable;

**2. What does the 'static' keyword mean when used inside a class method?**

- (A) The method cannot be overridden
- (B) The method belongs to the class, not an instance
- (C) The method is private
- (D) The method can only be called once
- (E) The method is thread-safe

**3. Which C++ feature allows a base class pointer to call a derived class method?**

- (A) Inheritance
- (B) Polymorphism
- (C) Encapsulation
- (D) Overloading
- (E) Templates

**4. What is the purpose of the 'explicit' keyword for constructors?**

- (A) To make the constructor private
- (B) To prevent implicit type conversions
- (C) To allow multiple constructor definitions
- (D) To create a default constructor
- (E) To make the constructor static

**5. Which smart pointer automatically deletes its resource when it goes out of scope?**

- (A) std::unique\_ptr
- (B) std::shared\_ptr
- (C) std::weak\_ptr
- (D) std::auto\_ptr
- (E) std::raw\_ptr

## C++ Exam - Varianta 1

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6. What is the primary difference between 'new' and 'malloc()'?

- (A) malloc() is faster
- (B) new is a C function, malloc() is C++
- (C) new calls constructors, malloc() does not
- (D) malloc() is more type-safe
- (E) new cannot allocate arrays

7. Which C++11 feature allows declaring a function that can accept any number of arguments?

- (A) Function overloading
- (B) Default arguments
- (C) Variadic templates
- (D) Lambda expressions
- (E) Function pointers

8. What does the 'constexpr' keyword indicate?

- (A) A constant variable
- (B) A function that can be evaluated at compile-time
- (C) An immutable reference
- (D) A runtime constant
- (E) A static variable

9. Which standard library container provides constant-time insertion and deletion at both ends?

- (A) std::vector
- (B) std::list
- (C) std::array
- (D) std::deque
- (E) std::map

10. What is the primary purpose of move semantics in C++11?

- (A) To create temporary objects
- (B) To improve performance by reducing unnecessary copying
- (C) To enable multiple inheritance
- (D) To create abstract classes
- (E) To implement runtime polymorphism