C++ TEST-13 (INHERITANCE)

Total points 50/50

STUDENT NAME *

VIVA

✓ 1. **What is inheritance in C++?** * 1/1

- ○ A) Hiding data from users
- ○ B) Creating multiple objects
- ◉ C) Deriving a new class from an existing one ✓
- ○ D) Overloading operators

✓ 2. **Which keyword is used to inherit a class in C++?** * 1/1

- ○ A) derived
- ○ B) inherits
- ○ C) extends
- ◉ D) : (colon) ✓

✓ 3. **Which of the following is the base class in inheritance?** * 1/1

- ○ A) The class being derived
- ◉ B) The class from which another class is derived ✓
- ○ C) The main class
- ○ D) The friend class

✓ 4. **The class that inherits from another class is called: *** 1/1

- A) Base class
- B) Parent class
- (●) C) Derived class ✓
- D) None of these

✓ 5. **In class B : public A, which is the base class? *** 1/1

- A) B
- (●) B) A ✓
- C) Both
- D) None

✓ 6. **How many types of inheritance does C++ support? *** 1/1

- A) 2
- B) 3
- C) 4
- (●) D) 5 ✓

✓ 7. **Which of the following is *not* a type of inheritance in C++?** * 1/1

- ○ A) Single
- ◉ B) Double ✓
- ○ C) Multiple
- ○ D) Hierarchical

✓ 8. **In multiple inheritance, a class can inherit from:** * 1/1

- ○ A) Only one class
- ○ B) Two classes
- ◉ C) More than one class ✓
- ○ D) None

✓ 9. **The syntax class B : public A represents which type of inheritance?** * 1/1

- ◉ A) Single inheritance ✓
- ○ B) Multiple inheritance
- ○ C) Multilevel inheritance
- ○ D) Hybrid inheritance

✓ 10. **When a class is derived from a derived class, it is called:** * 1/1

- ○ A) Single inheritance
- ◉ B) Multilevel inheritance ✓
- ○ C) Multiple inheritance
- ○ D) Hierarchical inheritance

✓ 11. **Which of the following access specifiers can be used in inheritance?** *1/1

- ○ A) public
- ○ B) private
- ○ C) protected
- ◉ D) All of the above ✓

✓ 12. **If a class is derived as class B : private A, then members of A become:** *1/1

- ○ A) Public in B
- ◉ B) Private in B ✓
- ○ C) Protected in B
- ○ D) Unchanged

✓ 13. **Public inheritance means:** * 1/1

- ○ A) Public members of base become private in derived
- ◉ B) Public members of base remain public ✓
- ○ C) All members become protected
- ○ D) None

✓ 14. **Private inheritance means:** * 1/1

- ◉ A) Public and protected members of base become private in derived ✓
- ○ B) Public and protected members remain unchanged
- ○ C) Base class becomes friend
- ○ D) None

✓ 15. **Which inheritance is used when multiple classes derive from a single base class?** *1/1

- ○ A) Multiple
- ○ B) Multilevel
- ◉ C) Hierarchical ✓
- ○ D) Hybrid

✓ 16. **Which inheritance type causes the “Diamond Problem”?** * 1/1

- ○ A) Single
- ◉ B) Multiple ✓
- ○ C) Multilevel
- ○ D) Hierarchical

✓ 17. **The Diamond Problem occurs due to ambiguity of:** * 1/1

- ○ A) Private members
- ○ B) Constructors
- ◉ C) Multiple base classes with common ancestors ✓
- ○ D) None

✓ 18. **Which keyword is used to solve ambiguity in multiple inheritance?** * 1/1

- ◉ A) virtual ✓
- ○ B) protected
- ○ C) static
- ○ D) friend

✓ 19. **Virtual inheritance ensures:** * 1/1

- ○ A) Multiple copies of base class exist
- ◉ B) Only one copy of base class exists ✓
- ○ C) No inheritance happens
- ○ D) None

✓ 20. **Constructors are called in which order during inheritance?** * 1/1

- ○ A) Derived to base
- ◉ B) Base to derived ✓
- ○ C) Random
- ○ D) None

✓ 21. **Destructors are called in which order during inheritance?** * 1/1

- ○ A) Base to derived
- ◉ B) Derived to base ✓
- ○ C) Random
- ○ D) None

✓ 22. **Which constructor is called first in inheritance?** * 1/1

- (●) A) Base class constructor ✓
- ( ) B) Derived class constructor
- ( ) C) Both simultaneously
- ( ) D) None

✓ 23. **What is inherited from the base class?** * 1/1

- ( ) A) Constructor and destructor
- ( ) B) Private members
- (●) C) Public and protected members ✓
- ( ) D) Static members only

✓ 24. **Which members of base class are not inherited?** * 1/1

- ( ) A) Public
- ( ) B) Protected
- (●) C) Private ✓
- ( ) D) All

✓ 25. **To access private members of base class, we use:** * 1/1

- (●) A) Friend function ✓
- ( ) B) Protected function
- ( ) C) Derived class directly
- ( ) D) None

✓ 26. **Can constructors be inherited in C++?** * 1/1

- ( ) A) Yes
- (●) B) No ✓
- ( ) C) Only if public
- ( ) D) Only virtual

✓ 27. **What is the use of the super keyword in C++?** * 1/1

- ( ) A) To call base constructor
- (●) B) No such keyword in C++ ✓
- ( ) C) To call virtual function
- ( ) D) To inherit

✓ 28. **Which function allows access to base class method with same name in derived class?** *1/1

- A) super()
- B) parent()
- C) Base::function() ✓
- D) className()

✓ 29. **Can a derived class override a non-virtual function?** * 1/1

- A) Yes, but it hides the base version ✓
- B) No
- C) Yes, completely replaces it
- D) Only if protected

✓ 30. **In C++, virtual inheritance avoids:** * 1/1

- A) Data redundancy ✓
- B) Function overloading
- C) Encapsulation
- D) Polymorphism

✓ 31. **What happens if a base class has a virtual destructor?** * 1/1

- ○ A) It gives an error
- ◉ B) Derived destructor also becomes virtual ✓
- ○ C) No effect
- ○ D) It deletes base class data

✓ 32. **Can we inherit multiple base classes?** * 1/1

- ◉ A) Yes ✓
- ○ B) No
- ○ C) Only with templates
- ○ D) Only virtually

✓ 33. **What is hybrid inheritance?** * 1/1

- ◉ A) Combination of more than one type of inheritance ✓
- ○ B) Combination of templates and classes
- ○ C) Virtual inheritance only
- ○ D) None

✓ 34. **Which inheritance type forms a tree-like structure?** * 1/1

- A) Multiple
- B) Hierarchical ✓
- C) Hybrid
- D) Multilevel

✓ 35. **What will happen if both base and derived class have the same function name?** *1/1

- A) Compiler error
- B) Derived class hides base class function ✓
- C) Both functions are called
- D) None

✓ 36. **Which of the following allows derived class to redefine a function?** * 1/1

- A) Overloading
- B) Overriding ✓
- C) Hiding
- D) Masking

✓ 37. **To achieve function overriding, which keyword is required in base class?** *1/1

- A) inline
- B) virtual ✓
- C) static
- D) override

✓ 38. **Can a derived class access protected members of base class?** * 1/1

- A) Yes ✓
- B) No
- C) Only through objects
- D) Only if public

✓ 39. **The syntax class C : public A, public B is an example of:** * 1/1

- A) Multiple inheritance ✓
- B) Multilevel inheritance
- C) Hybrid inheritance
- D) Hierarchical inheritance

✓ 40. **If class B and C inherit from A, and D inherits from both B and C, this is:** *1/1

- A) Single inheritance
- B) Multiple inheritance
- C) Hybrid inheritance ✓
- D) Hierarchical inheritance

✓ 41. **Which inheritance mechanism allows code reuse?** * 1/1

- A) Encapsulation
- B) Inheritance ✓
- C) Abstraction
- D) Polymorphism

✓ 42. **Can friend functions be inherited?** * 1/1

- A) Yes
- B) No ✓
- C) Only virtual ones
- D) Only public

✓ 43. **What is the default mode of inheritance in a class?** * 1/1

- ○ A) Public
- ◉ B) Private ✓
- ○ C) Protected
- ○ D) None

✓ 44. **What is the default mode of inheritance in a struct?** * 1/1

- ◉ A) Public ✓
- ○ B) Private
- ○ C) Protected
- ○ D) None

✓ 45. **Which feature of OOP allows reusability?** * 1/1

- ○ A) Polymorphism
- ○ B) Abstraction
- ◉ C) Inheritance ✓
- ○ D) Encapsulation

✓ 46. **When an object of derived class is created, which constructor runs first?** *1/1

- ○ A) Derived
- ◉ B) Base ✓
- ○ C) Both
- ○ D) None

✓ 47. **Which of the following can be inherited?** * 1/1

- ◉ A) Static members ✓
- ○ B) Constructors
- ○ C) Friend functions
- ○ D) Destructors

✓ 48. **Virtual inheritance is used to prevent:** * 1/1

- ○ A) Function overriding
- ◉ B) Multiple copies of base class ✓
- ○ C) Constructor duplication
- ○ D) Access specifier conflicts

✓ 49. **Which of the following inheritance types is *not* supported directly in C++?** *1/1

- (●) A) Hybrid ✓
- ( ) B) Multilevel
- ( ) C) Multiple
- ( ) D) Hierarchical

✓ 50. **What is the main advantage of inheritance?** * 1/1

- ( ) A) Speed
- (●) B) Code reusability ✓
- ( ) C) Memory management
- ( ) D) Compilation speed