**四川大学期末考试试题（闭卷）**

**（2022——2023学年第 2 学期） B卷**

课程号：304024030 课序号：08 课程名称：高级语言程序设计-Ⅱ 任课教师：赵启军 成绩：

适用专业年级：计算机学院2022级 学生人数：12 印题份数： 学号： 姓名：

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| **考 生 承 诺**  我已认真阅读并知晓《四川大学考场规则》和《四川大学本科学生考试违纪作弊处分规定（修订）》，郑重承诺：  1、已按要求将考试禁止携带的文具用品或与考试有关的物品放置在指定地点；  2、不带手机进入考场；  3、考试期间遵守以上两项规定，若有违规行为，同意按照有关条款接受处理。  **考生签名：** |
| **一、选择题（本大题共10小题，每题2分，共20分）**  1. Which of the following operators is used to access the member functions and variables of an object? **（ C ）**  A. []  B. \*  C. .  D. &  2. Which of the following is a type of polymorphism? **（ D ）**  A. Operator overloading  B. Method overloading  C. Method overriding  D. All of the above  3. Which keyword is used to declare a static member variable of a class? **（ A ）**  A. static  B. const  C. auto  D. Extern  4.Which of these operators cannot be overloaded in C++? **（ B ）** |

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| A. <  B. =  C. ++  D. ::  5.What is the difference between pass-by-value and pass-by-reference in function parameters? **（ A ）**  A. In pass-by-value, the function receives a copy of the argument's value, while in pass-by-reference, the function receives a reference to the argument  B. In pass-by-value, the function receives a reference to the argument, while in pass-by-reference, the function receives a copy of the argument's value  C. There is no difference between pass-by-value and pass-by-reference  D. Pass-by-value and pass-by-reference are not valid C++ function parameter types  6.Which part of a class can be defined as virtual function? **（ D ）**  A. friend function B. constructor function  C. static member function D. destructor function  7.Which of the following sentences is not correct? **（ D ）**  A. Derived class object can be assigned to Base class object.  B. Base class object can be assigned to Derived class object.  C. Derived class object point can be assigned to Base class object point.  D. Base class object point can be assigned to Derived class object point.  8.Which of the following is not a fundamental data type in C++?**（ D ）**  A. char  B. int  C. float  D. Decimal  9.What is not the difference between a reference and a pointer in C++?**（ D ）**  A. Pointers can be null while references cannot  B. References can be reassigned to refer to a different object while pointers cannot  C. Pointers must be dereferenced using the \* operator while references do not need to be |

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| D. None of all.  10.What is the difference between const and constexpr in C++? **（ A ）**  A. Const variables can be initialized at runtime while constexpr variables must be initialized at compile-time  B. Const variables cannot be modified once they are initialized while constexpr variables can be modified  C. Const variables can be declared without initialization while constexpr variables cannot  D. Constexpr variables are used to define template parameters while const variables are not  **二、填空题（本大题共5小题，每题2分，共10分）**  1. The copy constructor is a special constructor that creates a new object by copying an existing object of the same class.  2. In C++, templates allow generic programming by defining a template that can be used with different types.  3. A lambda function is an anonymous function that can capture variables from its surrounding context.  4. The process of defining a new function with the same name but different parameters and/or return type in the same scope as an existing function is called overloading.  5. In C++, polymorphism refers to the ability of objects of different classes to be treated as if they are objects of the same class.  **三、程序阅读题（本大题共8小题，每题5分，共40分）**  编写以下代码的输出（假设所有头文件都得到了处理）  1.输出为：15 |

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| 2.输出为：  MyClass::Ctor  Base::Ctor  Derived::Ctor  Derived::foo  Base::Dtor  MyClass::Dtor    3.输出为：15 |

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| 4.输出为：  1  2  5  1  5    5.输出为：53421 |

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| 6.输出为：Today's temperature: 26    7.输出为：  Dynamic\_cast (1) Fail!  Dynamic\_cast (2) OK!  Dynamic\_cast (3) Fail!    请更正以下程序（指出错误并更正。如有必要，请说明原因）   1. ①delete 'static'   ② or, add a global variant, int A::k. and delete the initial list. |

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| **四、程序填空题（本大题共10小题，每空2分，共20分）**    【1】 \\* getFirstName()  【2】 \\* getLastName()  【3】 static int  【4】 new char[ strlen( first ) + 1 ]  【5】 new char[ strlen( last ) + 1 ]  【6】 Employee::getCount()  【7】 new Employee( "Susan", "Baker" )  【8】 new Employee( "Robert", "Jones" )  【9】 delete e1Ptr  【10】 delete e2Ptr |

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| **五、程序设计题（本大题共2小题，每题5分，共10分）**  1.Write a lambda expression to count how many odd numbers are in nums. In addition, have the lambda add all of the odd numbers into the oddNumbers parameter vector.In addition, if the number is odd    Answer：  int countIf(std::vector<int>& oddNumbers) {  // START OF STUDENT CODE  auto lambda = [&oddNumbers] (int n) {  if (n % 2) {  oddNumbers.push\_back(n);  }  return n % 2;  };  // END OF STUDENT CODE  std::vector<int> nums = {3, 5, 10, 6, 8, 9};  return std::count\_if(nums.begin(), nums.end(), lambda);  }   1. Write a lambda expression to sort a vector of integers in reverse order. As a hint, your lambda will take in two numbers, as the sort function works by comparing numbers.     Answer：  std::vector<int> sort() {  // START OF STUDENT CODE  auto lambda = [](int i, int j){ return i > j; };  // END OF STUDENT CODE  std::vector<int> nums = {3, 5, 10, 6, 8, 9};  std::sort(nums.begin(), nums.end(), lambda);  return nums;  } |

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