Programming Language- 2

Topics and Links/Resources

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| Mid Term | | |
| SL | **Topics** | **Link/Resources** |
| 1 | Introduction to C++ Programming | <https://www.ntu.edu.sg/home/ehchua/programming/cpp/cp0_Introduction.html> |
| 2 | Basic Introduction to Object Oriented Programming  (Class, Object, Principles of OOP) | * <https://www.ntu.edu.sg/home/ehchua/programming/cpp/cp3_OOP.html#zz-2.9> * <https://anampiu.github.io/blog/OOP-principles/> |
| 3 | Access Modifier | <https://www.geeksforgeeks.org/access-modifiers-in-c/> |
| 4 | Constructor and Destructor | * <https://www.w3schools.in/cplusplus-tutorial/constructors-destructors/> * <https://www.geeksforgeeks.org/copy-constructor-in-cpp/> |
| 5 | Scope Resolution Operator | <https://www.geeksforgeeks.org/scope-resolution-operator-in-c/> |
| 6 | Static data member and function. | <https://www.tutorialspoint.com/cplusplus/cpp_static_members.htm> |
| 7 | Function Call-by-value, call-by-reference. | * <https://www.tutorialspoint.com/cplusplus/cpp_function_call_by_reference.htm> * <https://www.geeksforgeeks.org/pointers-vs-references-cpp/> |
| 8 | Pass object and return object from function. | <https://www.programiz.com/cpp-programming/pass-return-object-function> |
| 9 | Default Parameter/Arguments of Function and constructors. | <https://www.geeksforgeeks.org/default-arguments-c/> |
| 10 | *this* pointer. | <https://www.tutorialspoint.com/cplusplus/cpp_this_pointer.htm> |
| 11 | C++ String class. |  |
| 12 | C++ Stream Input/Output, File Processing | <https://www.tutorialspoint.com/cplusplus/cpp_files_streams.htm> |
| 12 | Function Overloading | <https://www.studytonight.com/cpp/function-overloading.php> |
| 14 | new and delete keywords | <https://www.tutorialspoint.com/cplusplus/cpp_dynamic_memory.htm> |

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| Final Term | | |
| SL | **Topics** | **Link/Resources** |
| 1 | Inheritance   * Inheritance and constructor Destructor * Pass value to base class * Types of Inheritance (Multilevel, Multiple) [Theory Only] | * <https://www.geeksforgeeks.org/inheritance-in-c/> * <https://www.geeksforgeeks.org/order-constructor-destructor-call-c/> |
| 2 | Polymorphism   * Static Polymorphism (Compile Time Polymorphism). * Dynamic Polymorphism (Runtime Polymorphism). * Function Overriding. * Child class reference to Base class pointer. | * <https://www.tutorialspoint.com/cplusplus/cpp_polymorphism.htm> * <https://www.geeksforgeeks.org/polymorphism-in-c/> |
| 3 | Abstraction   * Abstract class. * Virtual Function. * Pure Virtual Function. | * <https://en.wikibooks.org/wiki/C%2B%2B_Programming/Classes/Abstract_Classes> * <https://www.geeksforgeeks.org/abstraction-in-c/> |
| 4 | Exception Handling   * Try catch and throw. * Multiple catch block. * Default catch block. | * <https://www.tutorialspoint.com/cplusplus/cpp_exceptions_handling.htm> |
| 5 | Operator overloading   * Binary operator overloading. * Unary operator overloading. * Operator overloading and static polymorphism. | * <https://www.tutorialspoint.com/cplusplus/cpp_overloading.htm> * <https://www.tutorialspoint.com/cplusplus/binary_operators_overloading.htm> * <https://www.tutorialspoint.com/cplusplus/unary_operators_overloading.htm> |
| 6 | Template Function | * <https://www.cprogramming.com/tutorial/templated_functions.html> |
| 7 | Standard Template Library | * <https://www.geeksforgeeks.org/cpp-stl-tutorial/> * <https://www.geeksforgeeks.org/vector-in-cpp-stl/> * <https://www.tutorialspoint.com/cplusplus/cpp_stl_tutorial.htm> |
| 8 | Friend Function | * <https://www.tutorialspoint.com/cplusplus/cpp_friend_functions.htm> |