

Punjab Technical University
Master of Computer Application Examination

MCA 3rd Semester OBJECT ORIENTED PROGRAMMING IN C++ 2006

Time: Three hours maximum: 100marks

PART A Answer all questions (8x5=40 marks)

1. (a) How are data and function organized in an object oriented programming language? Or (b). Differentiate between dynamic binding and static binding.
2. (a) What is an object and how objects can be defined in C++? Or (b) how do you invoke a constructor function? Explain with example.
3. (a) Explain with example, the concept of overloading unary operators. Or (b) what is the scope rules governing the function overloading?
4. (a) Explain about reference arguments and default arguments. Or (b) Explain virtual member function with suitable example.
5. (a) Describe the various file mode operations. Or (b) what is a stream? Discuss the various forms of get () functions supported by the input stream.
6. (a) Explain “this pointer” with a suitable example. Or (b) What is file mode? Describe the various file mode options available in C++.
7. (a) What is search tree? Or (b) what is a object? What are the desirable qualities of an object?
8. (a) Explain how would you create space for an array of objects using pointers. Or (b) explain how sequential input and output operations are done on files in C++.

PART B Answer ALL questions (5x12=60 marks)

9. (a) Explain with example, how is the data hiding and data encapsulation implemented in object oriented languages. Or (b) explain how is polymorphism used during software designing phase.
10. (a) How is data read in and read out in Binary file? List the advantages and disadvantages of using binary file with examples. Or Explain the physical organization of classes in C++ system
11. (a) What is the scope and lifetime of an object? How is it inter linked with Destructor functions? What is the necessary to have destructors in classes? Or (b) Explain with example, the concept of binary overloading and list the rules for overloading operators
12. (a). What is inheritance? Describe the hierarchical and hybrid inheritance with example. Or (b) In what order are the class constructors called when a derived class object is created? Explain with examples.

13. (a) What is a virtual function? Why do we need virtual function in OOPS? Or (b) briefly discuss on the design of super fast spelling checker.