SEMBODAI RUKMANI VARATHARAJAN ENGINEERING COLLEGE

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

QUESTION BANK

Sub.Code : CS2203 Semester : III

Sub.Title : object oriented programming

UNIT – I

PART- A (2 MARKS)

1. What is Object Oriented Programming?
2. What are Objects?
3. Write any four features of OOPS.
4. What are the basic concepts of OOPS?
5. What is Procedure oriented language?
6. What is Encapsulation?
7. What is Data Abstraction?
8. Give any four advantages of OOPS.
9. What are tokens?
10. What are keywords?
11. Rules for naming the identifiers in C++.
12. What are the operators available in C++?
13. What is a scope resolution operator?
14. What are free store operators (or) Memory management operators?
15. What do you mean by enumerated data type?
16. What is meant by Assertions?
17. Define the term Standard Template Library (STL).

PART- B

1. Explain in details about the concepts of OOPs? (16)
2. (a) Explain in detail about Programming Elements (8)
   (b) What are Enumeration types? Explain in detail. (8)
3. Explain in detail about the following terms with example programs
   (i)Function Invocation (8)
   (II)Function Prototypes (8)
4. (a) What is meant by Default arguments? Give example program (8)
   (b)Define Function Overloading? Explain the example program. (8)
5. (a)Explain in detail about Scope class (8)
   (b)Explain in detail about Storage class with example program (8)
6. (a)Write short notes on Pointer Types (8)
   (b)What is meant by Assertion? Give example program (8)
7. Explain in detail about
   (i)Arrays and Pointers (8)
   (ii)Standard Template Library (STL) (8)

UNIT – II
PART-A (2-MARKS)

1. Define the term Aggregate Type Struct.
2. What is structure Pointer Operator?
3. What is Union?
4. Define Bit Fields.
5. How the Class is specified?
6. How the member functions are defined?
7. Define constructor.
8. Define default constructor.
9. Define parameterized constructor.
10. What is the ambiguity between default constructor and default argument constructor?
11. Define copy constructor.
12. Define default argument constructor.
13. Define Destructor.
14. Write some special characteristics of constructor.
15. How the objects are initialized dynamically?
16. What is static data member?
17. What is static member function?
18. What is the use of this keyword?
19. Difference between Structure and Union.

PART- B

1. Explain in detail about Structure with syntax and write example program. (16)
2. (a) Define Union. Explain with example program. (8)
   (b) Explain in detail about Bit -Field Structures. (8)
3. (a)Define Member Function and explain in detail about function inside the class body with example program . (8)
   (b)What is Parameterized constructor? Give syntax and example program (8)
4. Define Member Function and explain in detail about function outside the class body with example program. (16)
5. (a) What is Default constructor? Give syntax and example program (8)
   (b) What is Copy constructor? Give syntax and example program (8)
6. Write short notes on
   i. Static Member function (8)
   ii. This Pointer (8)
7. What is Destructor? Give syntax and example program (16)
8. Write short notes on
   i. Classes with necessary syntax and example program (8)
   ii. Reference Semantics (8)

UNIT – III
PART-A (2-MARKS)

1. What is Polymorphism? What are its types?
2. What is Function overloading? Give an example.
3. What are Overloaded function selection algorithms?
4. What is Operator overloading?
5. List out the Operators that cannot be overloaded.
6. What is the purpose of using Operator function? Write its syntax.
7. Write at least four rules for Operator overloading.
8. How will you overload Unary & Binary operator using member functions?
9. How will you overload Unary and Binary operator using Friend functions?
10. How an overloaded operator can be invoked using member functions?
11. How an overloaded operator can be invoked using Friend functions?
12. List out the operators that cannot be overloaded using Friend function.
13. What is meant by Overloading Operators?
14. Define the term Pointer Operators.

PART - B

1. (a)Write short notes on Abstract Data Type (ADT) Conversions. (8)
   (b)Explain in detail about Unary Operator Overloading with example program. (8)
2. (a)Explain in detail about Binary Operator Overloading with example program. (8)
   (b)Define Function selection algorithm. Explain it with one example program. (8)
3. (a)Explain in detail about Pointer Operators. (8)
   (b).Explain in detail about Pointer to class member with example program (8)
4. (a)Explain in detail about Friend Function with example program. (8)
   (b)Discuss about the Over loadable Operators. (8)

UNIT IV
PART –A (2-MARKS)

1. What is Inheritance? Explain the need of Inheritance with Suitable Examples.
2. What are the differences between the Accesses specifies private and protected?
3. Explain the syntax for declaring the derived class.
4. What are the different forms of Inheritance supported by C++?
5. What is Visibility mode? What are the different inheritance Visibility modes supported by C++?
6. Give any two Benefits of Inheritance
7. When to use the Inheritance Concept?
8. What are virtual Functions?
9. Give the syntax of virtual function?
10. Define Pure Virtual Function?
11. Give the syntax of Pure Virtual Functions?
12. Justify the need for Virtual Functions in C++?
13. Give any two rules for Virtual functions
14. What are Abstract Classes?
15. What are Exceptions?
16. What is Exception Handling?

PART – B

1. (a) What are the differences between the accesses specifies private and protected? (8)
   (b) What are base and derived classes? Write a program to use these classes (8)
2. (a)What are the different forms of inheritance? Explain with an example. (8)
   (b)What is class hierarchy? Explain how inheritance helps in building class hierarchies.(8)
3. What is visibility mode? What are the different visibility modes supported by C++? (16)
4. What are the differences between inheriting a class with public and private visibility mode? (16)
5. (a)What are virtual classes? Explain the need for virtual classes while building class(8)
(b) What are abstract classes? Explain the role of abstract class while building a class Hierarchy. (8)
6. Discuss cost and benefits of inheritance (16)
7. (a) Justify the need for virtual functions in C++. (8)
(b) What are the rules that need to be kept in mind in deciding virtual functions? (8)
8. (a) Explain code reuse with suitable example. (8)
(b) Explain the details about runtime type identifications with suitable example program. (8)
9. Explain the details about exception handling. (16)

UNIT V
PART –A (2-MARKS)

1. What is Generic programming?
2. What is Function Template?
3. What is Class Template?
4. What are Streams?
5. What are C++ streams?
6. Define Predefined console stream
7. Define Unformatted I/o operations
8. Define formatted console operations
9. What are Manipulators?
10. What are the types of Manipulators?
11. Define custom / user defined manipulators
12. Define Parameterized custom manipulators
13. Why is secondary memory preferred to main memory for permanent storage of programs and data?
14. What is a File?
15. Explain the various file stream classes needed for File Manipulators.
16. What are the steps involving Opening and Closing of Files.

PART – B

1. What is generic programming? What are its advantages and state some of its applications? (16)
2. What is Function template? Write a suitable example program. (16)
3. (a) Explain how the compiler process calls to a function template. (8)
   (b) Explain overloaded function templates. With suitable example program. (8)
4. (a) Explain multiple arguments function templates. (8)
   (b) Define user defined template arguments. (8)
5. What is a class template? Explain the syntax of a class template with suitable program. (16)
6. (a) Draw console stream class hierarchy and explain its members. (8)
(b) Explain the various methods of performing formatted stream I/O operations. (8)
7. What are manipulators? List the various predefined manipulators supported by c++
i. I/O streams. (8)
ii. Explain how standard manipulators are implemented. (8)
8. (a)What is a File? What are steps involved in manipulating a file in a C++ programs? (8)
(b)What are the different types of error that might pop-up while processing files? (8)
9. What are file modes? Describe various file mode options available? (16)
10. (a) What are file pointers? Describe get-pointers and put-pointers? (8)
(b) What are the differences between sequential and random access files? (8)
11. (a) What are Exceptions? What are the differences between synchronous and asynchronous exceptions? (8)
(b) Write a program to demonstrate the catching of all exceptions. (8)
12. List the ten rules for handling exceptions successfully. (16)