

- N. B.: (1) All questions are compulsory.  
(2) Numbers to the right indicate marks.  
(3) Draw neat labeled diagrams wherever necessary.

1. Attempt any three of the following:

15 M

- What are the characteristics of the Object Oriented Programming?
- Write a note on different types Inheritance.
- What are the applications of OOPs?
- Give the difference between procedure oriented programming language and Object oriented programming language.
- Write a note on object oriented development model.
- Write a note on classes and reusability.

2. Attempt any three of the following:

15 M

- Write a note on access specifiers in class.
- How we can define member function of a class?
- Explain inline function with proper example.
- What is a copy constructor? Explain with proper example.
- Write a friend function for adding the two complex numbers using a single class.
- Write a note on dynamic memory allocation.

3. Attempt any three of the following:

15 M

- Explain the concept of function overloading.
- Explain the concept of operator overloading.
- What are the rules for overloading operator?
- Write a note on abstract class.
- What are static member functions? Explain with an example.
- Write a program to overload binary operator.

4. Attempt any three of the following:

15 M

- Write a note on exception handling.
- What is a virtual base class?
- Write a program to achieve single inheritance.
- Explain all types of inheritance with proper example.
- Write a note on throwing and catching mechanism of exception handling.
- Write a note on derived class declaration.

5. Attempt any three of the following:

- a. Write a program to create string object.
- b. Write a note on template.
- c. What are function templates?
- d. Write a note on file stream operation.
- e. Write a note on sequential input and output operation.
- f. Write a program to read data from file and write data to the file.