



PART B — (5 × 16 = 80 marks)

11. (a) Explain the principles of object oriented programming with illustrative examples. (16)

Or

- (b) (i) What is function overloading? Explain with an example program. (10)  
(ii) What is a friend function? Explain with an example. (6)

12. (a) What are the various types of constructors? Illustrate with example programs. (16)

Or

- (b) Define a class called Complex. Include functions for reading and displaying complex objects. Write a function to overload + operator to add two Complex objects. (16)

13. (a) Write a program for binary search as a generic function. The function should take arguments as array name, the size and element to be searched. (16)

Or

- (b) Discuss in detail exception handling constructs in C++. Write a program to illustrate divide by zero exception handling. (16)

14. (a) (i) What is polymorphism? What is the difference between compile time and runtime polymorphism? Explain. (8)  
(ii) Consider base class Base and derived class Derived. Assume bptr is a pointer to base class and dptr is a pointer to derived class. Differentiate between these two pointers in terms of accessing the derived class object. (8)

Or

- (b) Explain the various runtime casting in detail. (16)

15. (a) What are manipulators? Explain in detail various manipulators used for I/O operations with example. (16)

Or

- (b) (i) Write a program to read and count the characters in a string. (8)  
(ii) Explain how sequence iterators work. (8)