



PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain the concept of operator overloading with suitable example. (8)  
(ii) Explain the use of friend functions in C++ with an example. (8)

Or

- (b) (i) Explain the use of function overloading in C++ with a complete example. (8)  
(ii) Explain constructors and destructors with proper example. (8)

12. (a) (i) Explain the concept of inheritance and various types inheritance in detail. (8)  
(ii) Write about exception handling in C++. (8)

Or

- (b) (i) Describe the various file handling templates in detail. (8)  
(ii) Define friend class and specify its importance. Explain with suitable example. (8)

13. (a) (i) Explain Priority Queues. How are binary heaps used in the same? (8)  
(ii) Explain the properties of heap. (8)

Or

- (b) (i) Write a program to implement stack and its operations. (8)  
(ii) What is hashing? Explain the various hash functions with example. (8)

14. (a) Discuss the different methods of traversing a binary tree with algorithms. (16)

Or

- (b) Explain Prim's and Kruskal's algorithm for computing the minimal spanning tree. (16)

15. (a) Explain the algorithm of Quick sort by sorting the following set of numbers as an example.

32 42 47 57 62 37 67 22 32 (16)

Or

- (b) (i) Write a program to implement binary search and compute its complexity. (8)  
(ii) Explain divide and conquer technique with a complete example. (8)