Question Paper Code : 42440

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2018

Third Semester

Electronics and Communication Engineering

EC2202 – DATA STRUCTURES AND OBJECT ORIENTED PROGRAMMING
IN C++

(Regulations 2008)

Time : Three Hours   Maximum : 100 Marks

Answer ALL questions

PART – A   (10×2=20 Marks)

1. What is an identifier ?

2. Define dynamic binding.

3. What is a virtual base class ?

4. What are templates ?

5. What are the different ways to implement list ?

6. How do you test for an empty queue ?

7. What is meant by an Abstract Data Type (ADT) ?

8. What is the complexity of insertion sort algorithm ?

9. State the divide and conquer strategy.

10. Define Heap Sort.

PART – B   (5×16=80 Marks)

11. a) State the rules to be followed while overloading an operator and write a program to illustrate overloading.

(OR)

b) Discuss about the constructor and its types with suitable C++ coding.

12. a) Explain in detail about the multiple inheritances with suitable coding.

    (OR)

    b) Briefly discuss about the virtual function with suitable example.

13. a) What is a queue ? Explain how priority queue could be implemented using linked list.

    (OR)

    b) Give linked list implementation of stack operations.

14. a) What is a spanning tree ? Explain Prim's algorithm with suitable example.

    (OR)

    b) What is a Binary tree ? Explain Binary tree traversals with neat diagram.

15. a) Write an algorithm for merge sort with example.

    (OR)

    b) With an example, explain Quick sort algorithm assuming the mid element as pivot element.

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