**16U223** (Pages: 2) Name: .....
Reg. No.....

**SECOND SEMESTER B.Sc. DEGREE EXAMINATION, MAY-2017**
(Regular/Supplementary/Improvement)
(CUCBCSS – UG)
**CC15U BCS2 B02 – OOP CONCEPTS AND DATA STRUCTURES USING C ++**
(Core Course: Computer Science)
(2015 Admission Onwards)

Time: Three Hours Maximum: 80 Marks

**SECTION-A**
**Answer all questions**

1. Define abstraction.
2. The memory size needed for a int data type in C++ is ……..
3. What is an inline function?
4. Define an array.
5. ……. is a nonlinear data structure.
6. The complexity of quick sort algorithm is ……
7. An ……. Address is stored in null pointer.
8. Write the syntax of do…while statement.
9. What do you mean by a destructor?
10. C++ operator used for dynamic memory allocation is ……

**(10 x 1=10 Marks)**

**SECTION-B**
**Answer all questions**

11. What do you mean by a friend function?
12. How to define a class in C++?
13. How a queue is represented as linked list?
14. What is the difference between pre and post increment statements?
15. Write an algorithm to perform bubble sorting?

**(5 x 2 = 10 Marks)**

## SECTION-C

**Answer any five questions**

16. Explain various operators in C++?
17. Explain various hashing techniques?
18. Explain with code binary search technique?
19. Write C++ program to add two complex numbers using object and class?
20. Why it is necessary to make a base class virtual base class. Explain.
21. Explain insertion operation to a linear linked list.
22. Explain with example how to write few data to a file using Fstream classes.
23. Short note on constructors.

**(5 x 4=20 Marks)**

## SECTION -D

**Answer any five questions**

24. Explain various OOP concepts.
25. Explain various inheritance techniques with example.
26. Explain with suitable example and algorithm insertion sorting technique?
27. Explain various stack operations with suitable code.
28. Explain with suitable C++ program functions in C++.
29. Explain how to evaluate a postfix expression using stack with suitable example.
30. Explain various type conversion techniques between objects and data types, object of various classes.
31. Explain various string representation methods.

**(5 x 8=40 Marks)**

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