

Total No. of printed pages = 3

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CS 131608

Roll No. of candidate

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2018

B.Tech. 6th Semester End-Term Examination

**OBJECT ORIENTED PROGRAMMING AND DATA
STRUCTURE**

Full Marks – 100

Time – Three hours

The figures in the margin indicate full marks
for the questions.

Answer question No. 1 and any *six* from the rest.

1. Answer the following questions : (10 × 1 = 10)
- (a) Define linked list.
 - (b) Define actual parameter.
 - (c) What do you mean by File?
 - (d) A constructor can never return value (T/F).
 - (e) When a class is inherited by more than one class, it is called _____.
 - (f) :: is scope resolution operator. (T/F)

[Turn over

- (g) Operator overloading extends the semantics of an operator without changing its syntax (T/F)
- (h) In selection sort the worst case is _____ and average case is _____.
- (i) State Abstract class.
- (j) State polymorphism.
2. (a) What is the difference between OOP and procedural programming?
- (b) What are the features of object oriented programming.
- (c) Briefly explain virtual base class with example.
(5 + 5 + 5)
3. (a) What is a static data member?
- (b) Write its characteristics.
- (c) Write a program using static data member and static member function.
(5 + 5 + 5)
4. Explain various types of inheritance with diagrams and examples.
(5 + 10)
5. What do you mean by constructor? Write a C++ program to show the use of different type of constructor.
(5 + 10)
6. (a) What do you mean by searching?
- (b) What are its types?
- (c) Explain with examples.
(5 + 5 + 5)

7. Define array and its type. Write a C++ program to find out largest and smallest of array element.

(5 + 10)

8. (a) Write a function or an algorithm to insert an element into a stack. (5 + 5 + 5)

(b) Evaluate the following postfix expression.

5, 6, 2, +, *, 12, 4, /, -

(c) Explain static binding and run time binding.

9. (a) Write the algorithm for bubble sort. (5 + 5 + 5)

(b) Sort the given sequence using bubble sort.

5 1 4 2 8

(c) State the merits and demerits of bubble sort.