



SE-6171

B. E. II (Sem - III) (CO/I.T.) Examination  
May / June - 2011

**Data Structure & Programming Methodology**

Time : 3 Hours]

[Total Marks : 100

**Instructions :**

(1)

नीचे दर्शायेव निशानीवाणी विगतो उत्तरवही पर अवश्य लपवी.  
Fillup strictly the details of signs on your answer book.

Name of the Examination :  
B. E. 2 (Sem - 3)

Name of the Subject :  
Data Structure & Programming Methodology

Subject Code No. : 6 1 7 1 Section No. (1, 2,.....): Nil

Seat No. :

Student's Signature

(2) Figures to the right indicate full marks.

- 1 (a) Define following terms : 10
- (1) Data Abstraction
  - (2) Algorithm
  - (3) Union
  - (4) Recursion
  - (5) Typedef
- (b) To generate fibonacci series which procedure will be better, recursive or iterative ? Justify your answer with proper example. 10

- 2 Write a C program to subtract two polynomials using singly link list. 15

OR

- 2 Write a C program to check for balanced parentheses using stack. 15

- 3** Write short notes on following : (any **three**) **15**
- (1) Multiple stacks
  - (2) Circular queue
  - (3) Application of Queue
  - (4) Compare array and link list
  - (5) Operations on stacks
- 4** (a) Define following terms : **10**
- (1) In-degree
  - (2) Forest
  - (3) Loop
  - (4) Binary tree
  - (5) Weighted graph
- (b) Explain threaded binary trees with suitable example. **10**
- 5** Write a C program to sort an array using quick sort algorithm. **15**
- OR**
- 5** Explain depth first search traversal algorithm with suitable example. **15**
- 6** Write short notes on following : (any **three**) **15**
- (1) Spanning trees
  - (2) Height balanced trees
  - (3) Conversion of general tree to binary tree
  - (4) Pointers
  - (5) Hashing