



UH-6171

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

May\June - 2012

Data Structure and Programming Methodology

Time : 3 Hours]

[Total Marks : 100

Instructions :

(1)

नीचे दशांश देव निशानीवाणी विगतो उत्तरवही पर अवश्य कभववी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="text" value="B. E. - II (Sem. - III) (CO/I.T.)"/>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="text" value="Data Structure and Programming Methodology"/>	<input type="text"/>
Subject Code No. : <input type="text" value="6"/> <input type="text" value="1"/> <input type="text" value="7"/> <input type="text" value="1"/>	<input type="text"/>
Section No. (1, 2,.....): <input type="text" value="Nil"/>	<input type="text"/>
	Student's Signature

(2) Figures to the extreme right indicate maximum marks.

- 1 (a) Define following terms : 10
(i) Abstract data type.
(ii) Algorithm.
(iii) Pointer.
(iv) Recursion.
(v) Typedef.
(b) What is link list ? Explain application of link list with 10 suitable example.

- 2 (a) Write algorithm or program to insert node at any position in singly link list. 8
(b) Compare array and link list. 7

OR

- 2 (a) Write algorithm or program to delete node at any position in singly link list. 8
(b) Discuss application of stack. 7

- 3 Write short notes on following : (any three) 15
(i) Multiple stacks.
(ii) Circular queue.
(iii) Application of Queue.
(iv) Sparse matrix.
(v) Operations on stacks.

- 4 (a) Define following terms : 10
(i) In-degree.
(ii) Graph.
(iii) Loop.
(iv) Binary tree.
(v) Weighted graph.
(b) Explain threaded binary trees with suitable example. 10
- 5 Write C program or algorithm 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
(i) Spanning trees.
(ii) Height balanced trees.
(iii) Conversion of general tree to Binary tree.
(iv) Pointers.
(v) Hashing.
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