

Roll No.

2006

B. E. 3rd Semester (ECE)
Examination – December, 2012
DATA STRUCTURE & ALGORITHM
Paper : CSE-201-E

Time : Three hours]

[Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complain in this regard, will be entertained after examination.

Note : Attempt any *five* questions. All questions carry equal marks.

1. (a) What do you mean by the term Data Structure? Discuss the basic operation of data structures with examples. 10
- (b) What is a stack ? How do you represent a stack in computer memory ? Also discuss basic operations performed on a stack. 10
2. (a) Differentiate between prefix, postfix and infix expression. Also discuss significance of postfix expression. 10

7. Explain any *two* of the following with their run time complexities and apply them to sort the following list of 10 elements in increasing order :

[25, 35, 15, 87, 78, 96, 69, 12, 27, 37]

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|-------------------|---|
| (i) Quick Sort, | 6 |
| (ii) Merge Sort, | 7 |
| (iii) Shell Sort. | 7 |

8. Write short notes on any *two* of the following :

$$10 \times 2 = 20$$

- (a) Circular linked list,
 - (b) Hashing,
 - (c) Asymptotic notations (Big O).
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