

2011

*Full Marks : 75*

*Time : 3 hours*

*Candidate are required to give their answerse*

*In their own words as far as practicable*

*The figures in the margin indicate full marks.*

*Question are of equal value*

*Answer any five questions*

1. What do you mean by algorithms & flow charts ? Discuss the complexity of algorithm ?
2. Trans form the following in Fixexpression into post fix notation .  
3  
( a )  $5 * X + 3 * ( X - 11 )$  ( b )  $2 ( a + b ) - 7 ( c + d )$
3. What do you mean by linked list ? Discuss its advantage over array ? Write an algorithm to insert an item in the singly linked list.
4. What are the application of stack ? Discuss infix, postfix and prefix notation ? With example ?
5. Discuss doubly linked list & circular linked list with necessary algorithm.
6. Explain traversal of binary tree inorder, pre order & post order ? Also discuss application of binary tree ?
7. ( a ) Explain the process of searching ? What is the advantage of binary search over selection search ?  
( b ) Write the algorithm for bubble sort.
8. What is Graph ? Discuss the terminology of graph ? Also explain Depth first search ?

**9. What do you mean by Auto CAD ? Explain the features of Auto CAD in detail ?**

**10. Write short notes on any three :**

**i) Circular queue                      ( ii ) Radix sort                      ( iii ) Hash Table**

**iv ) Recursion                              ( V ) High Balanced Tree.**

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***Answer any five questions***

- 1. What do you mean by Computer networks ? Describe different modes of data communication ?**
- 2. What is switching ? Discuss circuit switching, packet switching and message switching.**
- 3. Explain K-map its signifisance ? Discuss 2-variable K-map.**
- 4. Discuss different network devices in details ?**
- 5. Write short notes on**  
**( a ) Optical Fiber      ( b ) URL      ( C ) VSAT**

**GROUP B**

- 6. ( a ) Discuss the features of C language ?**  
**( b ) Describe variable , expressions & identifiers ?**
- 7. Discuss different formatted & unformatted Input / Output functions in C, with suitable example ?**
- 8. ( a ) Discuss nested if – else & else if ladder ?**

**( b ) Write a program to find the roots of quadratic equation  
 $ax^2 + bx + c = 0$**

- 9. What is array ? How to declare and initialize it ? Write program to sort a list of nos in ascending order ?**
- 10. Write notes on the following**
  - i ) Pointer ( ii ) function ( iii ) break & continue.**

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