No. : ....

ıe : ....

Semester B.A./B.Sc./B.Com./B.B.A./B.B.A.T.T.M./B.B.M./ B.C.A./B.S.W.
Degree (CCSS – Reg./Supple.) Examination, November 2011
GENERAL COURSE IN COMPUTER SCIENCE
3A14CSC/BCA : Methodology of Computer Science

e: 3 Hours

Max. WGP : 84

SECTION – A

swer **all** questions. Weightage for a bunch of 4 questions is 1 Maximum Weighted
ade Point : **1** (W) * **2** (bunch) * **4** (Max GP) = 8.

In _____, elements are added and deleted from one end.

In a tree, the node that have degree zero is called _____

The infix A/B – C + D * E – A * C has postfix _____

In a _____, the keys in the right subtree must be larger than the key
in the root.

A queue supports _____

a) LIFO   b) FIFO   c) LILO   d) None

Pre order traversal means visiting in the order

a) root, left, right   b) root, right, left

c) root, right   d) left, right

The time complexity of Insertion sort is _____

a) O(n)   b) $O(n^2)$ c) O(n log n)   d) O(log n)

_____ is a list in which the link field of the last node points to
he first node.

a) Array   b) Linked list   c) Tree   d) Circular list

SECTION – B

Answer any five questions. Weightage **1** each.

9. What is a Queue ?

10. What is an Algorithm and Point out its Criterias.

11. Define Array and its properties.

12. What is a linked list ? Point out its advantages.

13. Explain Pre order traversal of a Binary tree.

14. Explain recursive algorithm to find factorial.

15. Explain addition of two sparse matrixes.

16. What are Binary tree and its application ?

SECTION – C

Answer any five questions. Weightage **2** each.

17. Explain time complexity and Space Complexity.

18. Explain Bubble sort.

19. Write an algorithm to insert ith node in a doubly linked list ($i <= n$; Where n is total no of nodes)

20. Define the term Data structure. Explain any two.

21. Explain the applications of stack.

22. Explain adding of two polynomial using arrays.

23. Write on Merge sort.

24. Explain how inserting and deleting is done in a Queue.

SECTION – D

Answer any one question. Weightage **4** each.

25. Explain Linear Search and Binary Search algorithms and compare them.

26. For a singly linked list of integers write the following functions :

    i) Add a new node at the end

    ii) Insert nodes

    iii) Delete the node.