END TERM EXAMINATION

SECOND SEMESTER [BCA] MAY-JUNE 2016

Paper Code: BCA-108	Subject: Data Structure Using C
Time: 3 Hours	Maximum Marks: 75

Note: Attempt any five questions including Q no.1 which is compulsory.

Q1　Define the following terms:-　　　　　　　　　　　　　(5x5=25)
　　(a) Priority Queue
　　(b) Linked List
　　(c) Binary tree
　　(d) Selection sort
　　(e) Sparse matrix

Q2　Write a C program to perform PUSH and POP operations on a stack.　(12.5)

Q3　(a) Differentiate between linear search and Binary search.　(6.5)
　　(b) Write an algorithm to convert an infix expression to Post fix expression.(6)

Q4　Write an algorithm to sort a number list using Insertion sort and provide an example to verity the algorithm.　(12.5)

Q5　(a) What do you know about B-Tree? Write the steps to create a B-Tree?　(7.5)
　　(b) The following sequence gives the pre-order and inorder of the Binary Tre T:

Pre Order:	A	B	D	G	C	E	H	I	F
Inorder:	D	G	B	A	H	E	I	C	F

　　Draw the diagram of the tree.　(5)

Q6　Write a program to search an element using Binary search technique.　(12.5)

Q7　(a) Define Queue. In what ways a queue can be implemented?　(5)
　　(b) Write code for insertion and deletion in a queue.　(7.5)

Q8　Write an algorithm for inserting a node in linked list:　(12.5)
　　(a) At the Beginning
　　(b) At the end
　　(c) At the specified location

****

P