

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 verify 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 Tree 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

