J-9/2090
DATA STRUCTURE--201
SEMESTER-II
SYLLABUS MAY 2018

TIME ALLOWED 2Hrs (2Hrs)   M.M-70

NOTE;   Attempt any four questions. All questions carry equal marks.

Q1.	Define data structure. Discuss different types of data structure their implementations applications.
Q2.	What are the various operations possible on stacks? Explain the algorithm for each of them?
Q3.	What is an array? Discuss different types of array with examples.
Q4.	What is sparse array? Discuss its implementation using arrays.

Q5. (a)	In what way, doubly linked list is better than single linked list. Give examples.
(b)	Compare and contrast Quicksort and radix sort on the basis of their advantages and disadvantages.
Q6.	What do you mean by Link list? Write an algorithm to insert a node in Singly Linked List.
Q7.	Sort the following elements using radix sort: 121, 70, 965, 432, 12, 577, 683.
Q8.	Write an algorithm for Binary Search. How it is better from Linear Search?

Q9. (a)	What are the limitations of arrays? How can it be overcome?
(b)	What are the advantages of using a linked list rather than array?
(c)	How is a linear array represented in memory?
(d)	How is stack represented in memory?
(e)	Where is linked list used in real life?
(f)	Why insertion sort is called insertion sort?
(g)	How do you delete a node in a linked list?