

SUBJECT CODE:- 502
FACULTY OF ENGINEERING AND TECHNOLOGY
S.E.(EC/ECT/IEC/E&C) Examination Nov/Dec 2015
Data Structure
(Revised)

[Time: Three Hours]

[Max. Marks: 80]

“Please check whether you have got the right question paper.”

- N.B i) Question no.1 from section A and 6 from section B are compulsory.
 ii) Remaining solve any two questions from each section.

Section A

- Q.1 Solve any five questions of the following 10
 a) Write a syntax of following data structure
 i) Array
 ii) Structure
 iii) Pointer
 b) What is function? Explain category of function.
 c) What is linked list?
 d) What are stacks? Explain operation of stack.
 e) What is data structure? Explain its types.
 f) Convert following expression in post fix and prefix form $[(A*B)+(C/D)]-F$
 g) What are arrays? Explain the types of array.
 h) What is queue?
- Q.2 a) Write a C program to implement stack using array. 08
 b) Write difference between array and stack. 07
- Q.3 a) Define abstract data type. Write ADT of stack. 07
 b) List out operation of queue and explain any one with example. 08
- Q.4 a) Convert from infix to prefix and postfix. $((A+B)*C-(D-E))\$(F+G)$ 08
 b) Explain various operations performed on a singly linked list. 07
- Q.5 Write short notes on (any three) 15
 a) Circular link list
 b) Algorithm for doubly list delete operation
 c) Priority queue
 d) Application of stack.

SECTION-B

- Q.6 Solve any five questions of the following 10
 a) What is weighted graph?
 b) Define maximum cost spanning tree.
 c) What are graph traversal techniques?
 d) What do you mean by degree of node in tree?
 e) Define height of tree.
 f) Define maximum cost spanning tree.
 g) What is level of node?
 h) What is tree? Explain basic terminology of tree.

	i) What is sorting?	
	j) What is searching?	
Q.7	a) Explain in-order, pre-order and post-order of tree.	08
	b) Explain DFS with example.	07
Q.8	a) Sort following numbers using merge sort 45,60,70,75,80,85,60,55,50	08
	b) Write a 'C' program for bubble sort array.	07
Q.9	a) Write an algorithm for insertion sort	08
	b) Explain traversing methods of binary tree.	07
Q.10	Write short notes on (any three)	15
	a) Kruskal's algorithm	
	b) Heap sort	
	c) Application of graph and tree	
	d) B+ trees	