* R B - 1 8 4 3 / 2 0 0 0 *

RB-1843

Second Year B. C. A. (Sem. III) Examination

April/May – 2010

303-Advance 'C' & Data Structure

Time : **3** Hours] [Total Marks : **70**

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **S. Y. B. C. A. (Sem. 3)**

Name of the Subject :

☛ **303 - Advance 'C' & Data Structure**

☛ Subject Code No. : **1 8 4 3** ☛ Section No. (1, 2,.....) : **Nil**

Seat No. :

Student's Signature

(2) All questions are compulsory.
(3) Figures to the right indicate full marks.
(4) Trace an algorithm with suitable example.

1 Answer the following questions : (any **ten**) **10**

(i) What is Priority Queue?

(ii) Define data structure. List advantages of data structure.

(iii) What is the difference between rewind(fp) and fseek (fp, OL, 0).

(iv) Justify it. Function should return **one** value.

(v) List out the computer application of stack.

(vi) What is the difference between dynamic memory allocation and static memory allocation with example.

(vii) What is function chaining? How recursion differs from normal function chaining?

(viii) What is self referential structure? Explain with example.

(ix) List out the limitations of singly linked list.

(x) What is the difference between array of pointer and pointer to array?

(xi) What is the meaning of command line argument in File handling? How it works?

2 (a) Explain Recursion with proper example. State its Pros and Cons. Write a Recursive function to find factorial of given number. 8

(b) Explain D-Queue with its advantages. Write an algorithm to insert and delete in output restricted D-Queue. 7

OR

2 (a) Write a program to create a structure Cricket contain the fields (playername, teamname, bat_score).develop functions to insert the record, display the record, sort the records teamname wise. 8

(b) Give the difference between call by value and call by reference. Explain with suitable example. 7

3 (a) What is stack? Write algorithms for all the stack operations. 8

(b) How to pass and access pointer to structure in function with example. 7

OR

3 (a) Explain circular queue. Give the algorithm for insertion and deletion in a circular queue. 8

(b) What is function? Difference between user define and built in function. Explain elements and category of user define function. 7

4 (a) Write a program to perform following operations on doubly linked list : 8

(i) insert at given position
(ii) delete particular value
(iii) display the list.

(b) List out all Input/output functions of file. Explain in brief with example. 7

OR

4 (a) Write a program to implement circular queue using doubly linked list. With operations to insert and delete. 8

(b) List out all functions of random access file. Explain in brief with example. 7

5 Write short notes : (any **three**) **15**

(i) Non primitive data structures
(ii) Binary search
(iii) Memory representation of Array
(iv) Quick sort