

Syllabus

Computer Science

Session : 2011-2012

Class : B.Sc.I (Semester-II)

Paper-II Data Structure and Advance C

The examination in Computer Science will comprise One theory Paper and Practical examination for each semester. The theory paper will be of 3 Hours Duration and carry 80 marks. The Practical examination will be of 4 Hrs duration and carry 50 marks. The distribution of marks in Practical examination is given as. :

1)Program writing / execution (on group A & B)	: 30 marks
2)Practical / Record	: 10 marks
3)Viva-voce	: 10 marks
Total	50 marks

UNIT-I: Introduction to Data structure, type of data structures, list, array, stack and Queue; Algorithms of traversing, insertion and deletion operation on it.

UNIT-II: Linked list & its implementation, traversing, insertion, deletion algorithms, circular Queue.

UNIT-III : Tree : Binary, Binary search tree, tree Traversing : inorder, preorder and postorder, sorting and searching Techniques : Bubble sort, insertion sort and selection sort, linear search, Binary search.

UNIT-IV : Function : Definition, prototype, local & global variable, function parameter, function calling and return, return values and their types, function recursion Arrays : Declaration and initialization of one and two dimensional arrays, function with array.

UNIT-V : String Handling : Declaring and initialization of string variable ,operations on string : String copy comparison, concatenation. Pointers : Declaration and initialization, pointer and address arithmetic , Pointer comparison, Pointer and array.

UNIT-VI : Structure : Definition and declaration , initialization, array of structure , nested structure Union File Handling : Definition and opening a file, closing a file , I/O Operations on file : fgetc(), fputc(), fputs(), fgets(), fputs(), fscanf(), fprintf(), fread(), fwrite().

Practical : Minimum 16 Practical based on

A. Data structure using C Language

B. C language covering aspects of syllabus .

Study Tour : Study tour may be arranged to computer industry or software development organization or software technology Park Or IT park

Hardware :

I) List of Equipment :

a) No. of Computers 10 Nos. Desirable configuration) Printer - Minimum 2 Nos.

II) Accessories

1) Pen. Drives 2 Nos.

2) Printer Ribbon / Tonner

3) Stabilizer / UPS

4) Internet facility

Legal Software for the syllabus.

List of books.

1) Introduction to Data structure : Tremble, Sorenson.

2) Introduction to Data structure :Bhagat Singh , Mops.

3) Fundamentals of Comp Algorithm : Horowitz &Sahani.

4) Introduction to Data Structure in C : Pearson.

5) Programming in C : E Balguruswami : TMH Publication.

6) Programming with C :Venugopal K.R. TMH, Publication.

7) Programming in ANSIC :Ramkumar and RakeshAgrwal

8) Programming with C :Byson Gottfried , Schaum Series Publication.