

**Practical Syllabus  
of  
B.Sc. Computer Science**

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w.e.f. 2013-14

# Computer Practical Syllabus For B.Sc. (Computer Science)

## B.Sc. II Semester

Paper-III

Max. Marks 100

Examination Time: 6 Hrs

### Session-I

#### PC-Software

**Windows: Basics of Windows.** Windows History, Basic components of windows, icons, types of icons, taskbar, activating windows, using desktop, title bar, running applications, Windows explorer, managing files and folders, Configuring System devices. Control panel, using windows accessories.

**Documentation Using Word** - Introduction to Office Automation, Creating & Editing Document, Formatting Document, Auto-text, Autocorrect, Spelling and Grammar Tool, Document Dictionary, Page Formatting, Bookmark, Advance Features of MS-Word-Mail Merge, Macros, Tables, File Management, Printing, Styles, linking and embedding object.

**Electronic Spread Sheet using Excel** - Introduction to MS-Excel, Creating & Editing Worksheet, Formatting and Essential Operations, Formulas and Functions, Charts, Advance features of MS-Excel-Pivot table & Pivot Chart, Linking and Consolidation, Database Management using Excel-Sorting, Filtering, Table, Validation, Goal Seek, Scenario.

**Presentation using PowerPoint:** Presentations, Creating, Manipulating & Enhancing Slides, Organizational Charts, Excel Charts, Word Art, Layering art Objects, Animations and Sounds, Inserting Animated Pictures or Accessing through Object, Inserting Recorded Sound Effect or In-Built Sound Effect.

### Session-II

#### Programmimg in C

**Structure of a C Program.** Elements of C: C character set, identifiers and keywords, Data types, Constants and Variables, Assignment statement, Symbolic constant. Input/output: Unformatted & formatted I/O function, Input functions (scanf(), getch(), getche(), getchar(), gets()), output functions (printf(), putchar(), puts()).

**Operators & Expression:** Arithmetic, relational, logical, bitwise, unary, assignment, conditional operators and special operators. Arithmetic expressions, evaluation of arithmetic expression, type casting and conversion, operator hierarchy & associativity. Decision making & branching: Decision making with IF statement, IF-ELSE statement, Nested IF statement, ELSE-IF ladder, switch statement, goto statement.

**Decision making & looping:** For, while, and do-while loop, jumps in loops, break, continue statement.

**Functions:** Definition, prototype, passing parameters, recursion.

Storage classes in C: auto, extern, register and static storage class, their scope, storage, & lifetime.

**Arrays:** Definition, types, initialization, processing an array. Structure and Union.



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## B.Sc. IV Semester

Paper-III

Max. Marks 100

Examination Time: 6 Hrs

### Session-I

#### Data Structure implementation using 'C'

**Strings:** Introduction, strings, String operations, Pattern matching algorithms

**Arrays:** Representation of linear array in memory, Traversal, Insertions, Deletion in an array, Multidimensional arrays, Parallel arrays, Sparse matrix. **Linked List:** Introduction, Array vs. linked list, Representation of linked lists in memory, Traversal, Insertion, Deletion, Searching in a linked list, Header linked list, Circular linked list, Two-way linked list, Garbage collection, Applications of linked lists. Algorithm of insertion/ deletion in SLL.

**Stack:** primitive operation on stack, algorithms for push and pop. Representation of Stack as Linked List and array, Stacks applications : polish notation, recursion.

**Primitive Operations on the Queues,** Circular queue, Priority queue, Representation of Queues as Linked List and array, Applications of queue. Algorithm on insertion and deletion in simple queue and circular queue.

**Trees** Representations using Array & Linked List, Basic operation on Binary tree, Traversal of binary trees:- In order, Preorder & post order, Applications of Binary tree. Algorithm of tree traversal with and without recursion. Representation of graphs.

### Session-II

#### Programming with C++

**Class and Objects,** Data Hiding & Encapsulation, Structures, Data members and Member functions, Scope resolution operator and its significance, Static Data Members, Static member functions, Nested and Local Class, Accessing Members of Class and Structure.

**Constructor,** Initialization using constructor, types of constructor- Default, Parameterized & Copy Constructors, Constructor overloading, Default Values to Parameters, Destructors, Console I/O: Hierarchy of Console Stream Classes, Unformatted and Formatted I/O Operations.

**Manipulators,** Friend Function, Friend Class, Arrays, Array of Objects, Passing and Returning Objects to Functions, String Handling in C++, Dynamic Memory Management: Pointers, new and delete Operator, Array of Pointers to Objects, this Pointer, Passing Parameters to Functions by Reference & pointers.

**Static Polymorphism:** Operator Overloading, Unary & Binary Operators Overloading, Function Overloading, Inline Functions, Merits/Demerits of Static Polymorphism.



  
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**B.Sc. VI Semester**

**Paper-III**

**Max. Marks 100**

**Examination Time: 6 Hrs**

**Session-I**

**Web Designing using HTML**

**Web Browsers;** Web Servers; Hypertext Transfer Protocol; URLs; Searching and Web-Casting Techniques; Search Engines and Search Tools  
**Steps for Developing Website;** Choosing the Contents; Home Page; Domain Names; Internet Service Provider; Planning and Designing Web Site; Creating a Website; Web Publishing; Hosting Site;  
**Introduction to HTML;** Hypertext and HTML; HTML Document Features; HTML Tags; Header, Title, Body, Paragraph, Ordered/Unordered Line, Creating Links; Headers; Text Styles; Text Structuring; Text Colors and Background; Formatting Text; Page layouts; Insertion of Text, Movement of Text  
**Images:** Types of Images, Insertion of Image, Movement of Image, Ordered and Unordered lists; Inserting Graphics; Table Handling Functions like Columns, Rows, Width, Colours; Frame Creation and Layouts; Working with Forms and Menus; Working with Buttons like Radio, Check Box;

**Session-II:**

**SQL and PL/SQ**

**SQL:** Data Definition and data types, Create Table, Insert Data, Viewing Data, Filtering Table Data, Sorting data, Creating Table from a Table, Destroy table, Update, View, Delete, Join, Concatenating data from Table Specifying Constraints in SQL; Primary Key, Foreign Key, Unique Key, Check Constraint, Using Functions  
**PL/SQL-Introduction,** Advantages of PL/SQL The Generic PL/SQL Block: PL/SQL Execution Environment; PL/SQL Character Set and Data Types, Declaration and Assignment of Variables  
**Control Structure in PL/SQL:** Conditional Control, Iterative Control, Sequential Control



  
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# SCHEME OF EXAMINATION FOR COMPUTER SCIENCE PRACTICAL

(2017-18)

Class	Paper	Syllabus	Max. Marks	Time
B.Sc.-I Year	Paper-III	PC-Software Programming in C	100	6 hours
B.Sc.-II Year	Paper-III	Data Structure implementation using 'C' Programming with C++	100	6 hours
B.Sc.-III Year	Paper-III	Web Designing using HTML SQL and PL/SQL	100	6 hours

## Candidates present in the examination

Examination	Allotted candidates	Present candidates	Absent candidates
B.Sc. Computer Sc. Practical	27	22	5




  
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## Attendance Chart

Examina on: B.Sc. II Sem.  
Date of Examina on: 30 May 2018  
Subject: Computer  
Paper: Practical

Sr.No.	Roll No.	A endance
1	170042912	Present
2	170042920	Present
3	170042921	Present
4	170042925	Present

  
Principal  
Indira Gandhi National College  
Ladwa (Dhanora) Kurukshetra

Signature of Principal

I.G.N. COLLEGE LADWA

Total number of Candidates allo ed by the Principal: 04  
Total No. of Candidates examined by the Examiner: 04  
Total no. of Candidates absent in the Practical Examina on: Nil

Signature of Prac cal Examiner

  
I.G.N. COLLEGE LADWA

## Attendance Chart

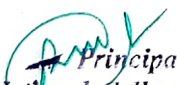
Examina on: B.Sc.. IV Sem.

Date of Examina on: 07 JUNE 2018

Subject: Computer

Paper: Practical

Sr.No.	Roll No.	A endance
1	6367108	Present
2	6367130	Present
3	6367144	Present
4	6367145	Absent
5	6367147	Present
6	6367150	Present
7	6367151	Absent
8	6367154	Present
9	6367156	Present
10	6367183	Present
11	6367186	Absent

  
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Indira Gandhi National College  
Ladwa (Dhanora) Kurukshetra

Signature of Principal

I.G.N. COLLEGE LADWA

Total number of Candidates allo ed by the Principal: 11  
Total No. of Candidates examined by the Examiner: 08  
Total no. of Candidates absent in the Practical Examina on: 03

Signature of Prac cal Examiner (Internal) 

I.G.N. COLLEGE LADWA

## Attendance Chart

Examination: B.Sc.. VI Sem.

Date of Examination 26 May 2018

Subject: Computer

Paper: Practical

Sr.No.	Roll No.	Attendance
1	5367101	Present
2	5367105	Present
3	5367111	Present
4	5367117	Absent
5	5367122	Present
6	5367124	Present
7	5367125	Present
8	5367156	Present
9	5367158	Present
10	5367173	Present
11	5367175	Present
12	5367177	Absent

Signature of Principal

I.G.N. COLLEGE LADWA

Total number of Candidates allotted by the Principal: 12

Total No. of Candidates examined by the Examiner: 10

Total no. of Candidates absent in the Practical Examination: 02

Signature of Practical Examiner

I.G.N. COLLEGE LADWA