

**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

2016-17)

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	42	34	8

  
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## Attendance Chart


Examination: B.Sc. II Sem.

Date of Examination: 26 April 2017

Subject: Computer

Paper: Practical

Sr. No.	Roll No.	Attendance
1	6367108	Present
2	6367119	Absent
3	6367130	Present
4	6367143	Absent
5	6367144	Present
6	6367145	Present
7	6367147	Present
8	6367150	Present
9	6367151	Present
10	6367152	Present
11	6367154	Present
12	6367156	Present
13	6367157	Present
14	6367183	Present
15	6367184	Absent
16	6367186	Present

  
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Indira Gandhi National College  
Ladwa (Dhanora) Kurukshetra  
Signature of Principal

I.G.N. COLLEGE LADWA

Total number of Candidates allowed by the Principal: 16  
Total No. of Candidates examined by the Examiner: 13  
Total no. of Candidates absent in the Practical Examination: 03

Signature of Practical Examiner (Internal)

  
I.G.N. COLLEGE LADWA

## Attendance Chart

Examina on **B.Sc.. IV Sem.**  
Date of Exam. **18 April 2017**  
Subject: **Computer**  
Paper: **Practical**

Sr.No.	Roll No.	Marks in Figures
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	ABSENT
10	5367173	Present
11	5367175	Present
12	5367177	Present
13	5367200	Present

Total number of Candidates allowed by the Principal: **13**  
Total No. of Candidates examined by the Examiner: **11**  
Total no. of Candidates absent in the Practical Examination: **02**

Signature of Principal

Signature of Practical Examiner

I.G.N. COLLEGE LADWA

I.G.N. COLLEGE LADWA

## Attendance Chart

Examination: B.Sc. VI Sem.

Date of Exam: 11 April 2017

Subject: Computer

Paper: Practical

Sr.no	Exam Roll No.	Attendance
1	4366103	Present
2	4366105	Present
3	4366112	Present
4	4366118	Present
5	4366119	Present
6	4366124	Present
7	4366126	Present
8	4366127	Present
9	4366131	Present
10	4366137	Present
11	4366139	Present
12	4366141	Absent
13	4366148	Present
14	4366152	Present
15	4366156	Present
16	4366163	Present
17	4366171	Present
18	4366174	Present
19	4366175	Present
20	4366179	Present
21	4366180	Present
22	4366181	Present



23	4366183	Present
24	4366184	Present
25	4366186	Present
26	4366187	Present

  
**Principal**  
**Indira Gandhi National College**  
**Ladwa (Dhanora) Kurukshetra**

Signature of Principal

I.G.N. COLLEGE LADWA

Total number of Candidates allowed by the Principal: **26**  
Total No. of Candidates examined by the Examiner: **25**  
Total no. of Candidates absent in the Practical Examination: **01**

Signature of Practical Examiner (Internal)

  
I.G.N. COLLEGE LADWA