

# **Practical Syllabus of B.A. Computer Science**

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w.e.f. 2013-14

# Computer Practical Syllabus For B.A.

B.A.II Semester

Paper-III

Max. Marks 60

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

### Programmming 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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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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# SCHEME OF EXAMINATION FOR COMPUTER SCIENCE PRACTICAL

(2018-19)

Class	Paper	Syllabus	Max. Marks	Time
B.A.-I Year	Paper-III	PC-Software Programming in C	100	6 hours
B.A.-II Year	Paper-III	Data Structure implementation using 'C' Programming with C++	100	6 hours
B.A.-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
BA computer Sc. Practical	19	16	03



  
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