# Punyashlok Ahilyadevi Holkar Solapur University, Solapur


**NAAC Accredited-2022**
**'B++' Grade (CGPA 2.96)**

## Name of the Faculty: Science & Technology

**CHOICE BASED CREDIT SYSTEM**

## Syllabus: COMPUTER SCIENCE

## Name of the Course: B. Sc. I Sem.– I & II (Liberal Science)

## (Syllabus to be implemented from June 2022)

# Punyashlok Ahilyadevi Holkar Solapur University, Solapur

**B. Sc. First Year (Liberal Science)**

**Semester- I & II**

**Core Course: COMPUTER SCIENCE**

| **Teaching Scheme:** | **Examination Scheme:** |
|---|---|
| **Lectures – 3 Hours/week, 2 Credits** | **UA – 40 Marks** |
| **Practical – 4 Hours/week, 4 Credit** | **CIE – 10 Marks** |

About Course:

---

**Course Prerequisite:**
Student shall have knowledge of basic computer terminology

---

**Preamble:**

The systematic and planned curricula for first year students shall motivate and encourage them for pursuing higher studies in Computer Science and for becoming an entrepreneur.

---

**Course Objectives:**

1. To learn fundamental concepts of computersl.
2. To familiarize with the different application softwares like MS-Word, MS-Excel, MS-Power point.
3. To study the components of Operating System like MS-DOS and Windows Operating System.

---

**Course Outcomes:**

At the end of this course, Students will be able to,

1. Understand basic working of the operating system.
2. Apply and utilize MS-Office applications.
3. Apply knowledge of Smith chart to determine transmission line parameters.

---

# B. Sc. I Sem. I Paper No. I

# Fundamentals of Computers

### *Unit I:-Introduction to Computer* *[15]*

Introduction to computers, Evolution of personal computers; Generation of computers;Elements of a computer processing system- Hardware & Software, various categoriesof software; Computer organization Overview- CPU, I/O devices, storage devices andmedia; Various type of displays and other peripherals used in PCs.

### *Unit II:-Operating System Concept*

Introduction to Operating system, Purpose of Operating Systems, services andfeatures of OS, Types of Operating System, Components of OS.

Introduction to PC Operating Systems: - DOS, Windows operating System, Linuxoperating system, Conceptand working with files and folders.

Introduction to Mobile Operating System: -Android, Windows, IOS, Symbian

### Unit II:-Microsoft Office [15]

**Microsoft Word:-**Introduction to MS Word, opening, creating, saving, deletingdocument, page setting, formatting page, formatting text, adding images, Headerfooters, border and shading, bullets, mail merge, Table,graphics, label, Templates,Wizards and Printing Techniques.

**Microsoft Excel: -**Introduction to excel, File management in excel, operations relatedto workbook, formattingsheet, adding formulate and functions, charts and maps,data menu, view menu, work with multiple worksheets,importing and exporting ofdata.

**Microsoft PowerPoint:** Introduction and Applications of Power Point, create a NewPresentation, Adding Slides, Clip Arts, Smart art, Charts, Text, images and otherobjects, Templates and Master Slides, Giving Animation effects, Links and Actionbuttons

### *Text /Reference Book*


1. Computer Fundaments - P.K. Sinha.
2. Fundamental of computers - V. Raja Raman.
3. Computer Fundamentals- Anita Goel
4. Fundamentals of Information Technology - Chetan Srivastava.
5. Computer Fundamental -B. Ram


---

- **Continuous Internal Evaluation (CIE):**

CIE will consists of Home Assignment/Tutorials/Tests/Seminars, etc.

## Punyashlok Ahilyadevi Holkar Solapur University, Solapur

**B. Sc. First Year (Liberal Science)**

**Semester-I Paper-II**

**Core Course: COMPUTER SCIENCE**

| **Teaching Scheme:** | **Examination Scheme:** |
|---|---|
| **Lectures – 3 Hours/week, 2 Credits** | **UA – 40 Marks** |
| **Practical – 4 Hours/week, 4 Credit** | **CIE – 10 Marks** |

About Course:

**Course Prerequisite:**

Student shall have knowledge of programming language.

**Preamble:**

The systematic and planned curricula for first year students shall motivate and encourage them for pursuing higher studies in Computer Science and for becoming an entrepreneur.

**Course Objectives:**

4. To learn fundamental concepts of computer programming like algorithm, flowcharts, etc.
5. To familiarize with the basics of C programming language.
6. To study the components of Arrays, strings.

**Course Outcomes:**

At the end of this course, Students will be able to,

4. Understand basic structure of C Program.
5. Apply and utilize operators, branching statements, and looping statements.
6. Applications of Arrays and strings to solve real life problems.

# B. Sc. I Sem. I Paper No. II
# Programming Using C – I

## *Unit I:-Introduction to Programming* *[15]*

Programming languages (Machine Languages, Assembly Languages, High level languages), Compiler, Assembler, Interpreter.

Planning the Computer Program: Concept of problem solving, Problem definition, Program design, Debugging, Types of errors in programming, Documentation., Concept of Algorithm, Characteristics, Notation of Algorithm,Designing Algorithms Writing step by step procedure,

Flowcharts- Definition, Symbol, features, representation in terms of Flow chart, Advantages and Limitations ofFlow Charts, Pseudo code generation, Tracing, Testing,

### Introduction to 'C'

History, Features of C, Structure of 'C' programming, C-Tokens, Data types, Operators, Control Statements-Conditional control statements, Looping, Unconditional control statements

### Unit II: -Arrays and String [15]

Array definition and declaration, Types of array, Accessing Array, array manipulation, searching, insertion, deletion of an element from an array, basic matrix operations, dynamic array, String-Declaration and Initialization of String, operation on string, inbuilt String handling functions, arithmetic operation on string, table of string.

## *References*


1. Let us C- Y. C. Kanetkar
2. C programming- Dennis Ritchie
3. Programming in C- Goterfried
4. Programming in C – E. Balagurusamy


---

- **Continuous Internal Evaluation (CIE):**

CIE will consists of Home Assignment/Tutorials/Tests/Seminars, etc.

**PRACTICAL (CORE COURSE)**
**B. Sc. First Year (Liberal Science)**
**Semester-I & II**

**Practical – I: COMPUTER SCIENCE**

| | |
|---|---|
| **Teaching Scheme:** | **Examination Scheme:** |
| **Practical – 4 Hours/week, 4 Credit** | **UA – 80 Marks** |
| | **CIE – 20 Marks** |

List of Practical:

(Minimum 20 Maximum 25)

Students should perform minimum 20 practical during Semester I & II