

DEPARTMENT OF INFORMATION TECHNOLOGY
NATIONAL INSTITUTE OF TECHNOLOGY SRINAGAR

Course Title	Code	L	T	P	Credits
Computer Fundamentals and Problem solving Techniques	IT 101	3	0	0	3

UNIT I

INTRODUCTION:

Introduction to computers, A Simple Computer Model, Hardware and Software essentials of a computer, Need of computer in present world, Characteristics of Computers, Evolution of Computers, Basic Operations of a computer System, Classification of Computer system.

UNIT II

BASIC COMPUTER ORGANIZATION:

Input / Output Units: Defining input and output units, types and description of Input –Output devices, Printing devices.

Storage: Primary memory, Memory Cell, Memory organization, ROM, RAM and its types, Secondary storage devices and its types

Processor: Description of Processor, its components, ALU, CU, Processor Registers, Structure of Instructions, Basic Architectures, Processor generations.

UNIT III

PROBLEM SOLVING TECHNIQUES:

Algorithms and flowcharts, writing algorithms and drawing flowcharts for the simple problems, Computer languages, Programming with SciLab/MATLAB.

UNIT IV

BASICS OF SOFTWARE AND NETWORKS:

System Software and utilities, Application Software, Licensed and Open Source Softwares, Need of Operating Systems, Types of Operating Systems, Basics of Internet/Networking and its applications.

UNIT V

BASIC COMMANDS IN OPERATING SYSTEMS:

Commands for DOS, UNIX and LINUX, Internal and External commands, Shell Programming

Text Books :

1. Introduction to computers by Peter Norton, Tata McGraw Hill.
2. Computer Fundamentals by P. K. Sinha

Reference Books:

1. Computer Fundamentals by V. Rajaraman, Pearson Education.
2. Unix concepts and applications, Sumitabha Das, Tata McGraw Hill.
3. www.scilab.org and www.mathworks.com

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Course Title	Code	L	T	P	Credits
Computer Fundamentals and Problem solving Techniques Lab	IT 102 P	0	0	2	1

List of Experiments:

1.	Identify the different parts of a computer system, Know how each and every parts of a computer system works, Learn how different parts of the computers work together to produce a good output.
2.	Create a document using MS-Word Document creation, Text manipulation with Scientific Notations Table creation, formatting, and conversion
3.	Create a Spreadsheet and enter the marks of a student, calculate total and print grade, if the student has passed in all subjects using MS-Excel, CHARTS
4.	Create a Power-point presentation using MS-PowerPoint
5.	Basic Commands of DOS/WINDOWS
6.	Basic Commands of UNIX/LINUX
7.	Basic programs on SciLab
8.	Basic programs on MATLAB

* Perform the above tasks using Open Office/ MS Office, SciLab/MATLAB