Course Design

Context	In order to meet the demand of Under Graduate level students entering into the next phase of higher education and vocational life.
Prerequisite	Current under graduate students with basic understanding of Secondary level Mathematics.
Course objective	The main thrust is on comprehending the basics of computing and the course is a step towards preparing the learners to encounter situations associated with digital world.
Program highlights and unique features	The syllabus for Basic Computing incorporates/focuses on six units to train students to assemble/reassemble a computer by plugging in different components. This course will also develop file management skills to prepare documents, presentations as well as to handle databases. Finally, students will be aware of use of internet along with its usage policies.
Career prospect	Enhancement of employability quotient and widening of scope in vocational life in this cutting edge digitized world.
Faculty requirements	Internal (Dept. of Physics, Mathematics & Chemistry) & External peers.
Modern pedagogy	Flipped model of learning & Continuous and Comprehensive Evaluation
Course fee	Nil
Intake capacity	Max. 20 students per group
Contact hours	24 hrs. L + 12 hrs. P
Course duration	Classes: Theory class duration : 1 hr Practical class duration : 1 hr Number of classes per week : 4 (both theory and practical) Total Course duration : 9 weeks/36 hrs.
Tutorial	If required to be adjusted with lesson plan
Course Content	Detailed course content attached herewith in Annexure I
Course outcome	Students will be able to: 1. Demonstrate basic building blocks of a computer on both Hardware and Software. 2. Identify the ideas behind operating system and work with the same. 3. Create a professional document. 4. Judge dos and don'ts of a presentation. 5. Solve problems using knowledge of spreadsheet. 6. Apply their knowledge of internet for safe digital activity.
Assessment process and grading	i. Attendance ii. Continuous assessment tool iii. Project based assessment iv. Written test v. Practical Examination vi. Viva-voce Detailed plan is attached herewith in Annexure II
Student feedback	After every module/ Unit via Google Form.

Annexure I : Course Content

Unit 1: **Introduction to Computer (2L+1P)**

A short introduction to Computers & its applications, Historical development of Computers, **Basics of Hardware and Software**: **Hardware:** Central Processing Unit, Input devices, Output devices, Computer Memory & storage, Connecting Keyboard, Mouse, Monitor and Printer to CPU. **Software:** Application Software, Systems Software, Summary.

Unit 2: **Introduction to Operating system (2L+1P)**

Introduction to Operating System: Operating Systems for Desktop and Laptop and their installation, Operating Systems for Mobiles and Tablets, Booting of OS for PC, **User Interface for Desktop and Laptop**: Task Bar, Icons & Shortcuts, Running an Application, **Operating System Simple Setting using Mouse**: Changing System Date and Time, Changing Display Properties, To Add or Remove Program and Features, File and Folder Management, Types of File extensions, Summary.

Unit 3: **Word Processing (4L+2P)**

Word Processing Basics: Opening Word Processing Package, Title Bar, Menu Bar, Toolbars & Sidebar, Creating a New Document, Opening, saving and Closing Documents, Save as feature, Help functionality, Page Setup, Print Preview, Printing of Documents, Saving a Document as PDF file.
Preparation of word document: Shortcut Keys, Text Creation and modification, Editing Text: Text Selection, Cut, Copy and Paste, Font, Color, Style and Size selection, Alignment of Text, Undo & Redo, AutoCorrect, Spelling & Grammar, Find and Replace, **Formatting the Text:** Paragraph Indentation, Bullets and Numbering, Change case, Header & Footer, Table Modification: Insert & Draw Table, Changing cell width and height, Alignment of Text in cell, Delete / Insertion of Row, Column and Merging & Splitting of Cells, Border and Shading, Summary.

Unit 4: **Creating Presentations (4L+2P)**

Creation of Presentation: Creating a Presentation Using a template, Creating a Blank Presentation, Inserting & Editing Text on Slides, Inserting and Deleting Slides in a presentation, Saving a Presentation, **Modifying Slides**: Inserting Table, Adding ClipArt Pictures, Inserting Other Objects, Resizing and Scaling an Object, **Presentation of Slides :** Choosing a Set Up for Presentation, Running a Slide Show, Transition and Slide Timings, Automating a Slide Show, Printing Slides and Handouts, Does and don'ts for a presentation. Summary.

Unit 5: **Working with Spreadsheet (6L+3P)**

Elements of Spread Sheet: Creating a Spread Sheet, Concept of Cell Address (Row and Column) and selecting a Cell, Entering Data (text, number, date) in Cells, **Page Setup:** Printing of sheet, Opening, Saving and closing a Spread sheet.
Maodification of Cells & Worksheet : Modifying / Editing Cell content, Formatting Cell (Font, Alignment, Style), Cut, Copy, Paste & Paste Special , Changing Cell Height and width, Inserting and Deleting Rows, Column, AutoFill, **Formulas, Functions and Charts :** Using Formulas for Numbers (Addition, Subtraction, Multiplication & Division), AutoSum, Functions (Sum, Count, Max, Min, Average, Round off), Sorting of data, Summary.

Unit 6: **Introduction to Internet (6L+3P)**

Introduction to Internet: Concept of Internet & WWW, Applications of Internet, Website Address and URL, ISP,IP, Network security, Modes of Connecting Internet (Hotspot, Wi- Fi, LAN Cable, Broadband, USB Tethering) Popular Web Browsers (Internet Explorer/Edge, Chrome, Mozilla Firefox, Opera etc.) and their functionalities. **Exploring the Internet:** Surfing the web, Popular Search Engines, Searching on Internet, Downloading Web Pages, Printing Web Pages.
Structure and usage of E-mail: Opening Email account, Mailbox: Inbox and Outbox, Creating and Sending a new E-mail, Replying to an E-mail message, Forwarding an E-mail message, Internet surfing and email, **Digital learning**, **Social Networking, Cyber law & security:** Facebook, Twitter, LinkedIn, Instagram, Instant Messaging (WhatsApp, Facebook, Messenger, Telegram), **Netiquettes**, Overview of e-Governance Services like Railway Reservation, Passport, Adhaar ard, Ration card, Welfare schemes etc., **Online form fill-ups:** Different scholarships, Examinations, Form fill-ups and documents resizing and uploading, **Online transaction,** Digital Locker, Summary.

Unit	Class	Mode of interaction	Lesson outline	Unit Objective
1.	Class 1	Lecture/ demonstration	1.0 Introduction 1.1 Objectives 1.2 Computer: A short introduction 1.2.1 Computers & its applications 1.2.2 Historical development of Computers	❑ After completion of the unit, students will be able to: ❖ identify the basic components of computers, IT gadgets ❖ state functions various input, output and hardware components of a computer along with storage devices. ❖ differentiate among various types of software ❖ assemble a computer.
	Class 2	Lecture/ demonstration	1.3 Basics of Hardware and Software 1.3.1 Hardware 1.3.1.1 Central Processing Unit 1.3.1.2 Input devices 1.3.1.3 Output devices 1.3.1.4 Computer Memory & storage 1.3.1.5 Connecting Keyboard, Mouse, Monitor and Printer to CPU. 1.3.2 Software 1.3.2.1 Application Software 1.3.2.2 Systems Software 1.4 Summary 1.5 Model Questions and Answers	
	Class 3	Practical session	Assemble and reassemble of a computer.	
2.	Class 4	Lecture/ demonstration	2.0 Introduction 2.1 Objectives 2.2 Operating System 2.2.1 Operating Systems for Desktop and Laptop and their installation 2.2.2 Operating Systems for Mobiles and Tablets 2.2.3 Booting of OS for PC 2.3 User Interface for Desktop and Laptop 2.3.1 Task Bar 2.3.2 Icons & Shortcuts 2.3.3 Running an Application	❑ After completion of the unit, students will be able to: ❖ define Operating System (OS) ❖ state applications of OS for both desktop and mobile devices. ❖ identify various desktop screen components and modify display properties, date, time etc. ❖ add and remove new program and features, manage files and folders. ❖ distinguish among various types of file extensions.
	Class 5	Lecture/ demonstration	2.4 Operating System Simple Setting 2.4.1 Using Mouse 2.4.2 Changing System Date and Time 2.4.3 Changing Display Properties 2.4.4 To Add or Remove Program and Features 2.5 File and Folder Management 2.6 Types of File Extensions 2.7 Summary 2.8 Model Questions and Answers	
	Class 6	Practical session	Handling of operating system for PC.	

Lesson/Activity planning				
Unit	Class/ Hour	Type of lecture	Lesson outline	Unit objective

3.	Class 7	Lecture/ demonstration	3.0 Introduction
			3.1 Objective
			3.2 Word Processing Basics
			    3.2.1 Opening Word Processing Package
			    3.2.2 Title Bar, Menu Bar, Toolbars &
			           Sidebar
			    3.2.3 Creating a New Document
				❑ After completion of the unit, students will be able to:
				
				❖ create, process, edit and export a document.
				❖ export documents in different extensions and print the same.
				❖ insert Header and Footer on the document.
				❖ work with tables in document file.
				❖ use short-cuts available in Microsoft word for efficient work-flow.

	Class 8	Lecture/ demonstration	3.3 Opening and Closing Documents
			    3.3.1 Opening Documents
			    3.3.2 Save and Save As
			    3.3.3 Closing Document
			    3.3.4 Using The Help
			    3.3.5 Page Setup
			    3.3.6 Print Preview
			    3.3.7 Printing of Documents
			    3.3.8 Saving a Document as PDF file	

	Class 9	Practical session	Preparation of word document	

	Class 10	Lecture/ demonstration	3.4 Text Creation and modification
			    3.4.1 Document Creation
			    3.4.2 Editing Text
			    3.4.3 Text Selection
			    3.4.4 Cut, Copy and Paste
			    3.4.5 Font, Color, Style and Size selection
			    3.4.6 Alignment of Text
			    3.4.7 Undo & Redo
			    3.4.8 AutoCorrect, Spelling & Grammar
			    3.4.9 Find and Replace
			3.5 Formatting the Text
			    3.5.1 Paragraph Indentation
			    3.5.2 Bullets and Numbering
			    3.5.3 Change case
			    3.5.4 Header & Footer	

	Class 11	Lecture/ demonstration	3.6 Table Modification
			    3.6.1 Insert & Draw Table
			    3.6.2 Changing cell width and height
			    3.6.3 Alignment of Text in cell
			    3.6.4 Delete / Insertion of Row,
			           Column and Merging &
			           Splitting of Cells
			    3.6.5 Border and Shading
			3.7 Shortcut Keys
			3.8 Summary
			3.9 Model Questions and Answers	

	Class 12	Practical session	Editing and formatting of word document	

Lesson/Activity planning				
Unit	Class/ Hour	Type of lecture	Lesson outline	Unit objective

4.	Class 13	Lecture/ demonstration	4.0 Introduction
			4.1 Objectives
			4.2 Creation of Presentation
			    4.2.1 Creating a Presentation Using a template
			    4.2.2 Creating a Blank Presentation
			    4.2.3 Inserting & Editing Text on Slides
			    4.2.4 Inserting and Deleting Slides in a
			        presentation
			    4.2.5 Saving a Presentation
				❑ After completion of the unit, students will be able to:
				
				❖ create, process, edit & export a presentation.
				❖ save a presentation and printing of slides and handouts.
				❖ Modify slides to enhance the look of the slides as well as whole presentation by inserting a picture, objects, formatting etc.
				❖ identify the don'ts of a professional presentation.

	Class 14	Lecture/ demonstration	4.3 Modifuing Slides
			    4.3.1 Inserting Table
			    4.3.2 Adding ClipArt Pictures
			    4.3.3 Inserting Other Objects
			    4.3.4 Resizing and Scaling an Object	

	Class 15	Practical session	Preparation of power point slides and its editing.	

	Class 16	Lecture/ demonstration	4.4 Presentation of Slides
			    4.4.1 Choosing a Set Up for Presentation
			    4.4.2 Running a Slide Show
			    4.4.3 Transition and Slide Timings
			    4.4.4 Automating a Slide Show
			    4.4.5 Printing Slides and Handouts	

	Class 17	Lecture/ demonstration	4.5 Summary 4.6 Model Questions and Answers 4.7 How to give a bad talk?	
	Class 18	Practical session	Power point presentation.	

5.	Class 19	Lecture/ demonstration	5.0 Introduction
			5.1 Objectives
			5.2 Elements of Spread Sheet
			    5.2.1 Creating a Spread Sheet
			    5.2.2 Concept of Cell Address [Row
			        and Column] and selecting a Cell
			    5.2.3 Entering Data [text, number,date] in Cells	

	Class 20	Lecture/ demonstration	5.2.4 Page Setup
			    5.2.5 Printing of sheet
			    5.2.6 Saving Spread sheet
			    5.2.7 Opening and Closing	

	Class 21	Practical session	Preparation of excel sheet.	
Continued to next page.				

Lesson/Activity planning				
Unit	Class/ Hour	Type of lecture	Lesson outline	Unit objective
5.	Class 22	Lecture/ demonstration	5.3 Modification of Cells & Worksheet 5.3.1 Modifying / Editing Cell Content 5.3.2 Formatting Cell (Font, Alignment, Style) 5.3.3 Cut, Copy, Paste & Paste Special 5.3.4 Changing Cell Height and width 5.3.5 Inserting and Deleting Rows, Column 5.3.6 AutoFill	❑ After completion of the unit, students will be able to: ❖ create, process, edit & export a spreadsheet. ❖ use spreadsheet as data-array.. ❖ setup of pages in a spreadsheet. ❖ do Printing ,saving opening and closing of Spread sheet . ❖ modify cells in a spreadsheet: ❖ format cells; cut, copy, paste and paste special in a cell.. ❖ insert formulas and functions in spreadsheet and use them to solve simple mathematical problems.
	Class 23	Lecture/ demonstration	5.4 Formulas, Functions and Charts 5.4.1 Using Formulas for Numbers (Addition, Subtraction, Multiplication & Division) 5.4.2 AutoSum 5.4.3 Functions (Sum, Count, Max, Min, Average, Round off) 5.5 Sorting of data 5.6 Summary 5.7 Model Questions and Answers	
	Class 24	Practical session	Using functions in Excel.	
	Class 25		5.8 Data handling using Excel 5.8.1 Graphs 5.8.2 Charts	
	Class 26		5.8.3 Histograms 5.9 Interpretation of data	
	Class 27	Practical session	Data handling using Excel	
6.	Class 28	Lecture/ demonstration	6.0 Introduction 6.1 Objectives 6.2 Internet 6.2.1 Concept of Internet & WWW 6.2.2 Applications of Internet 6.2.3 Website Address and URL 6.2.4 ISP,IP, Network security 6.2.5 Modes of Connecting Internet (Hotspot, Wi- Fi, LAN Cable, Broadband, USB Tethering)	
	Class 29	Lecture/ demonstration	6.3 Popular Web Browsers (Internet Explorer/Edge, Chrome, Mozilla Firefox, Opera etc.) and their functionalities.	
	Class 30	Practical session	Handling of webpage.	

Lesson/Activity planning				
Unit	Class/ Hour	Type of lecture	Lesson outline	Unit objective

	Class 31	Lecture/ demonstration	6.4 Exploring the Internet
			    6.4.1 Surfing the web
			    6.4.2 Popular Search Engines
			    6.4.3 Searching on Internet
			    6.4.4 Downloading Web Pages
			    6.4.5 Printing Web Pages	

6	Class 32	Lecture/ demonstration	6.5 Structure of E-mail
			6.6 Using E-mails
			    6.6.1 Opening Email account
			    6.6.2 Mailbox: Inbox and Outbox
			    6.6.3 Creating and Sending a new E-mail
			    6.6.4 Replying to an E-mail message
			    6.6.5 Forwarding an E-mail message
				❑ After completion of the unit, students will be able to:
				
				❖ state basic working principles of internet.
				❖ work with different popular web browsers.
				❖ search web contents categorically and efficiently.
				❖ download and print documents from webpage.
				❖ identify structure of an E-mail.
				❖ use email for communications.
				❖ use different modes of digital learning.
				❖ get familiar with Internet securities, Cyber laws & Netiquettes.
				❖ reserve tickets, apply for passport, adhaar card and different examinations.

	Class 33	Practical session	Internet surfing and email	

	Class 34	Lecture/ demonstration	6.7 Digital learning
			6.8 Social Networking, Cyber law & security
			    6.8.1 Facebook, Twitter, LinkedIn, Instagram
			    6.8.2 Instant Messaging (WhatsApp, Facebook, Messenger, Telegram)
			    6.8.3 Netiquettes	

	Class 35	Lecture/ demonstration	6.9 Overview of e-Governance Services like Railway Reservation, Passport, Adhaar card, Ration card, Welfare schemes etc.
			6.10 Online form fillups
			    6.10.1 Different scholarships
			    6.10.2 Examinations
			    6.10.3 Form fill-ups and documents resizing and uploading.
			    6.10.4 Online transaction
			6.11 Digital Locker
			6.11 Summary
			6.12 Model Questions and Answers	

	Class 36	Practical session	Handling of online portals	