

Department of Mathematics  
Certificate Course  
on  
“Computer Application”

**Computer Fundamentals and Office Tools and Internet Fundamentals and Web Tools**

**No. of Lectures (Theory+Practical)**

**Unit-I:**

**6+4**

Basics of Computers :Definition of a Computer - Characteristics and Applications of Computers – Block Diagram of a Digital Computer – Classification of Computers based on size and working – Central Processing Unit – I/O Devices. Primary, Auxiliary and Cache Memory – Memory Devices. Software, Hardware, Firmware and People ware – Definition and Types of Operating System – Functions of an Operating System – MS-DOS – MS Windows – Desktop, Computer, Documents, Pictures, Music, Videos, Recycle Bin, Task Bar – Control Pane.

**Unit-II:**

**12+10**

**MS-Word** Features of MS-Word – MS-Word Window Components – Creating, Editing, Formatting and Printing of Documents – Headers and Footers – Insert/Draw Tables, Table Auto format – Page Borders and Shading – Inserting Symbols, Shapes, Word Art, Page Numbers, Equations – Spelling and Grammar – Thesaurus – Mail Merge

**MS-PowerPoint** Features of PowerPoint – Creating a Blank Presentation - Creating a Presentation using a Template - Inserting and Deleting Slides in a Presentation – Adding Clip Art/Pictures - Inserting Other Objects, Audio, and Video - Resizing and scaling of an Object – Slide Transition – Custom Animation

**MS-Excel** Overview of Excel features – Creating a new worksheet, Selecting cells, Entering and editing Text, Numbers, Formulae, Referencing cells – Inserting Rows/Columns – Changing column widths and row heights, auto format, changing font sizes, colors, shading.

**Unit-III:**

**9+5**

**Fundamentals of Internet** Networking Concepts, Data Communication – Types of Networking, Internet and its Services, Internet Addressing – Internet Applications – Computer Viruses and its types – Browser –Types of Browsers.Using Internet Explorer, Standard Internet Explorer Buttons, Entering a Web Site Address, Searching the Internet – Introduction to Social Networking: twitter, tumblr, Linkedin, facebook, flickr, skype, yelp, vimeo, yahoo!, google+, youtube, WhatsApp, etc.

**Unit-IV:**

**6+5**

**E-mail** Definition of E-mail - Advantages and Disadvantages – UserIds, Passwords, Email Addresses, Domain Names, Mailers, Message Components, Message Composition, Mail Management,Email Inner Workings.

**WWW** Web Applications, Web Terminologies, Web Browsers,URL – Components of URL, Searching WWW – Search Engines and Examples

**Basic HTML** Basic HTML – Web Terminology – Structure of a HTML Document – HTML, Head and Body tags – Semantic and Syntactic Tags – HR, Heading, Font,Table tags,List

## DEPARTMENT OF Mathematics

### CERTIFICATE COURSE 'Computer Applications'

#### Course outcome

By the completion of this certificate course in Information & Communication Technology (ICT), participants will be equipped with the knowledge and skills to:

#### **Computer Fundamentals:**

Develop a strong understanding of computer hardware and software components, including the central processing unit (CPU), memory, storage devices, and operating systems. Acquire the ability to perform basic computer operations such as file management, software installation, and system maintenance. Gain knowledge of computer security best practices and data backup procedures to ensure the safety and integrity of digital assets.

#### **Office Tools Proficiency:**

Master the use of essential office productivity software, including word processing, spreadsheet management, and presentation software. Create and format professional documents, perform data analysis, and design compelling presentations. Develop skills in efficient document management and collaboration using office tools.

#### **Internet Fundamentals:**

Understand the core principles of internet architecture, protocols, and services, including the World Wide Web (WWW) and email. Navigate the internet with ease, using web browsers, search engines, and bookmarks to find and access information. Comprehend internet safety and security measures to protect personal data and privacy while online.

#### **Web Tools and Applications:**

Explore a variety of web tools and applications used for communication, collaboration, and productivity, such as email, cloud storage, and web-based office suites. Create and edit web-based documents, spreadsheets, and presentations for seamless online collaboration with peers and colleagues. Familiarize yourself with web-based project management and productivity tools to enhance efficiency in personal and professional tasks.

#### **Effective Online Communication:**

Develop communication skills for online environments, including email etiquette, netiquette, and professional digital communication practices. Understand the use of online communication tools for networking, collaboration, and information exchange in various contexts.

#### **Web Browsing and Information Retrieval:**

Learn efficient web browsing techniques, optimizing information retrieval from the internet. Gain expertise in using search engines and evaluating the credibility of online sources for research and data validation.

#### **Internet and Web Security Awareness:**

Recognize common internet security threats and vulnerabilities and apply best practices for safe online behavior. Understand the importance of strong passwords, secure connections, and antivirus software in safeguarding personal and sensitive information.

By the end of this certificate course, participants will be proficient in computer fundamentals, expertly utilize office tools, navigate the internet and its services, and effectively use web tools and applications. They will also possess the knowledge and skills to engage in secure and productive online activities, both personally and professionally.

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