



National Vocational and Technical Training Commission (NAVTTTC),

Government of Pakistan

## FOREWORD

National Vocational and Technical Training Commission (NAVTTTC) extends its gratitude and appreciation to representatives of business, industry, academia, government agencies, provincial TEVTAs, sector skill councils and trade associations who spared time and extended their expertise for the development of National Vocational Qualification for **Level 3 Computer Operator/IT Assistant**. This work would not have been possible without the technical support of the experts.

It may not be out of place to mention here that all the experts of Industry, Academia and TVET experts of TEVTAs, BTEs and PVTC work diligently for making this qualification worthy and error free for which all credit goes to them. However, NAVTTTC accepts the responsibility of all the errors and omissions still prevailing in the Qualification document.

It is also noteworthy that development of Skill Standards is a dynamic and ongoing process, and the developed competency standards needs periodic review and updating owing to the constant technological advancements, development in scientific knowledge, and growing experience of implementation at the grass root level as well as the demand of industry. The NAVTTTC, Government of Pakistan will ensure to keep the qualifications abreast with the changing demands of both national and international job markets.

**Executive Director (NAVTTTC)**

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## **Introduction**

The vocational professions are increasingly getting attention in Pakistan, not only among the youth seeking to enter in the job market but also among adults who wish to polish their skills to develop a career out of it. Computer Operator/ IT Assistant is rapidly expanding in Pakistan because of its popularity and IT industry.

The importance of a Diploma in information Technology Level 3 course lies in its ability to enhance productivity and efficiency by equipping users with the skills to produce high-quality, detailed IT Skills. This proficiency not only improves individual competency but also contributes to better project outcomes, reduced errors, and streamlined workflows in professional settings. Thus, investing in a Computer Operator/IT Assistant Level 3 course is invaluable for professionals seeking to elevate their IT Skills.

### **Purpose of the Training program:**

The purpose of this training is to develop a range of skills and techniques, soft skills and attributes essential for successful performance in IT sector in accordance with industry requirements. This course will enable trainees to possess the necessary skills, knowledge, and expertise to create high-quality IT skills according to market demand. This qualification aims to:

- **Skill Development:** Helping individuals develop both foundational and advanced IT skills relevant to their job roles or career goals.
- **Career Advancement:** Enabling individuals to enhance their employability and advance in their careers by gaining certifications, credentials, and hands-on experience.
- **Increased Productivity:** Ensuring employees are proficient in using IT tools and systems, thus improving efficiency and productivity in the workplace.
- **Adapting to Technological Changes:** Preparing individuals to stay current with the fast-evolving IT landscape and adapting to emerging technologies.
- **Problem Solving and Troubleshooting:** Equipping participants with the ability to identify, analyze, and resolve IT-related issues or technical challenges

### **Overall objectives of training program:**

The main objective of this training program is to improve the employability of young diploma holder through training in the IT sector, and to train them so that they can prove to be an asset to this sector. The advanced training provided in Computer Operator/IT Assistant level 3 course ensures that professionals are well-equipped to meet industry demands

This course is designed to equip students with the necessary skills and knowledge to effectively operate computers in various office environments. These programs aim to provide practical, hands-on training that enables students to become proficient in using computer applications, software, and tools essential for different industries.

### **Possible available job opportunities available immediately and later in the future:**

After completing a 6-month Computer Operator/IT Assistant short course, students can explore various job opportunities as:

- Computer Operator
- Office Assistant
- Data entering operator
- Administrative Assistant
- Graphic designer assistant
- Junior IT Support
- Help Desk Technician

<b>Date of development:</b>	<b>04 to 08 Sep, 2023</b>
<b>Date of review:</b>	<b>25-Aug 2025 to 28-Aug 2025</b>
<b>Entry requirement:</b>	<b>Matric</b>
<b>Recommended trainer trainee ratio:</b>	<b>1:25</b>
<b>Teacher Qualification:</b>	<b>BS in any IT related field or Diploma in Information Technology or any equivalent IT related international certification(s)</b>

### Duration of the Course (Total Time, Theory & Practical Time)

Code	Modules	Level	Theory		Practical		Total	
			C	Hr.	C	Hr.	C	Hr.
0611ICT1501	Maintain Computer System	2	0.4	4	1.2	12	1.6	16
0611CT1502	Prepare MS word document	2	0.4	4	2.8	28	3.2	32
0611CT1503	Prepare spreadsheet	2	0.4	4	2.8	28	3.2	32
0611CT1504	Create presentation in MS PowerPoint	2	0.4	4	1.6	16	2	20
0611CT1505	Create basic database using MS Access	3	0.6	6	2.6	26	3.2	32
0611CT1506	Prepare InPage document	3	0.4	4	2.4	24	2.8	28
0611CT1507	Manage Email using outlook	3	0.3	3	0.9	9	1.2	12
0611CT1508	Create video conference using team	2	0.3	3	0.9	9	1.2	12
0611CT1509	Browse internet and Manage Emails	2	0.3	3	0.9	9	1.2	12
0611CT1510	Install and configure network connections	2	0.6	6	2.6	26	3.2	32
0611CT1511	Install and Configure Network Devices	3	0.9	9	2.7	27	3.6	36
0611CT1512	Install and Configure Network Utilities Software	3	0.6	6	2.6	26	3.2	32
0611CT1513	Get Started with C#	3	0.4	4	1.2	12	1.6	16
0611CT1514	Apply Operators & Expressions in practice	3	0.6	6	2.6	26	3.2	32
0611CT1515	Manage Flow Control using Conditional Statement & Loops	3	0.6	6	2.6	26	3.2	32
0611CT1516	Implement Arrays structure in C#	3	0.6	6	2.6	26	3.2	32
0611CT1517	Implement methods in OOP	3	0.6	6	2.6	26	3.2	32

0611CT1518	Implement Adobe Illustrator Essentials Tools and Design	3	1.0	10	3.8	38	4.8	48
0611CT1519	Implement Adobe Photoshop Essential Tools and Designs	3	1.0	10	3.8	38	4.8	48
0611CT1520	Create Portfolios on LinkedIn, Instagram and Facebook	3	1.0	10	3.0	30	4.0	40
0611CT1521	Create Freelancing Proficiency on Digital Platforms	3	0.6	6	1.8	18	2.4	24
	<b>Total</b>		<b>12.0</b>	<b>120</b>	<b>48.0</b>	<b>480</b>	<b>60</b>	<b>600</b>

## Modules

### Module 01: 0611ICT1501 Maintain Computer System

**Objective:** After this module the candidate will be able to install and configure system software / operating systems (windows and Linux) and resolve installation errors on computers. This Module aims to provide knowledge and skills on computer system management. It also deals with basic introduction to computer system management, safety aspects, tools and equipment identification and handling techniques.

**Duration: 16 Hours**

**Theory: 4 Hours**

**Practical:12 Hours**

Learning Units	Learning Outcomes	Learning Elements	Duration	Material Required	Learning Place
<b>LU1.</b> Install system Software/OS	<ul style="list-style-type: none"> <li>• Check hard disk drive for installed OS (if required).</li> <li>• Create hard disk drive backup (if required)</li> <li>• Create partitions (if required) and format hard disk drive.</li> <li>• Install required operating system by following manual.</li> <li>• Troubleshoot errors while installation (if required)</li> </ul>	<ul style="list-style-type: none"> <li>• Types of software</li> <li>• Concept of basic system software</li> <li>• Identification of preinstalled operating systems</li> <li>• Methods of creating hard disk backups using backup software</li> <li>• Disk partitioning</li> <li>• Troubleshooting techniques for installation errors</li> </ul> <p><b>Activity:</b></p> <ul style="list-style-type: none"> <li>• Install the required operating system and configuring initial setup options</li> </ul>	Theory: 0.5 Hr. Practical:1.5 Hr. Total: 2 Hrs.	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Operating Systems (Windows and Linux)</li> <li>• Bootable Flash drive</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
<b>LU2.</b> Install /Configure peripheral devices	<ul style="list-style-type: none"> <li>• Read the Device's Manual before the plug-in.</li> <li>• Connect devices to computer using appropriate cable</li> <li>• Download and install Device drivers.</li> </ul>	<ul style="list-style-type: none"> <li>• Define peripheral devices</li> <li>• Importance of reading the device's manual before installation</li> <li>• Cables and connectors used for peripheral devices (USB, HDMI, VGA, etc.)</li> </ul>	Theory:0.5 Hr. Practical:1 Hr. Total: 1.5Hrs	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Operating Systems (Windows and Linux)</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>



	<ul style="list-style-type: none"> <li>• Configure Device Settings (if required)</li> <li>• Test the installed devices</li> <li>• Disconnect the device properly (if required)</li> </ul>	<ul style="list-style-type: none"> <li>• Steps to properly connect devices</li> <li>• Device drivers and their role</li> <li>• Downloading and installing correct drivers for different devices</li> <li>• Accessing and adjusting device settings using system tools or device-specific software</li> <li>• Testing the functionality of installed devices</li> <li>• Using diagnostic tools and software to verify device operation</li> <li>• Importance of properly disconnecting devices to prevent data loss or damage</li> <li>• Steps to safely disconnect peripheral devices from the computer</li> </ul> <p><b>Activity:</b></p> <ul style="list-style-type: none"> <li>• Properly Connect various peripheral devices to a computer</li> </ul>		<ul style="list-style-type: none"> <li>• Bootable Flash drive</li> </ul>	
<b>LU3.</b> Install Application Softwares	<ul style="list-style-type: none"> <li>• Install Application software's as per installation guides and end-user requirements/license agreement</li> <li>• Use installation method like customized or full</li> </ul>	<ul style="list-style-type: none"> <li>• Understand application software and its types</li> <li>• Read and following installation guides and license agreements</li> <li>• Identify user requirements before installation</li> <li>• Knowledge of different installation methods</li> </ul>	Theory: 0.5Hr. Practical:1 Hr. Total: 1.5Hrs.	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Operating Systems (Windows and Linux)</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

	<ul style="list-style-type: none"> <li>• Install the software in desired location</li> <li>• Verify the installation</li> </ul>	<p>(customized, full, typical, minimal)</p> <ul style="list-style-type: none"> <li>• Understand selection of desired installation location (default vs. custom path)</li> <li>• Learning software installation step by step</li> <li>• Verifying successful installation through testing and functionality check</li> <li>• Understanding uninstallation or repair options after installation</li> </ul> <p><b>Activity:</b></p> <ul style="list-style-type: none"> <li>• Select and use the appropriate installation method based on user requirements and software specifications</li> </ul>		<ul style="list-style-type: none"> <li>• Bootable Flash drive</li> </ul>	
<b>LU4.</b> Update/Upgrade device driver	<ul style="list-style-type: none"> <li>• Scan computer for hardware changes</li> <li>• Update/upgrade device drivers</li> <li>• Verify updated features are in accordance with the specifications / requirements.</li> <li>• Perform compatibility test for the Hardware components and peripheral devices</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of device Manager use to detect new hardware.</li> <li>• Understand prerequisite for Hardware compatibility.</li> <li>• Knowledge to Identify and resolve any errors, conflicts, or performance issues.</li> <li>• Understand diagnostic tools.</li> </ul> <p><b>Activity:</b></p> <ul style="list-style-type: none"> <li>• Download and install drivers from the manufacturer's website.</li> </ul>	<p>Theory: 0.5 Hr. Practical: 1 Hr. Total: 1.5Hrs</p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Operating Systems (Windows and Linux)</li> <li>• Bootable Flash drive</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

<b>LU5.</b> Update/ upgrade software	<ul style="list-style-type: none"> <li>• Check for updates using available options for update</li> <li>• Choose the Update Method “Check for Updates” or “Update Now”</li> <li>• Wait for the Update to Complete</li> <li>• Restart the Application if required</li> <li>• Verify the update</li> </ul>	<ul style="list-style-type: none"> <li>• Understanding the concept of scanning a computer for hardware changes</li> <li>• Learning how to update and upgrade device drivers</li> <li>• Verifying updated features against specifications and requirements</li> <li>• Performing compatibility tests for hardware components and peripheral devices</li> <li>• Checking for updates using system or software update options</li> <li>• Knowledge of update methods: “Check for Updates” and “Update Now”</li> <li>• Monitoring the update process and waiting for completion</li> <li>• Restarting the application or system if required after update</li> <li>• Verifying successful updates through testing and functionality checks</li> </ul> <p><b>Activity:</b></p> <ul style="list-style-type: none"> <li>• Perform updates in a sample software application.</li> <li>• Use both “Check for Updates” and “Update Now” options..</li> </ul>	Theory: 0.5 Hr. Practical:1 Hr. Total: 1.5Hrs.	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Operating Systems (Windows and Linux)</li> <li>• Bootable Flash drive</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
<b>LU6.</b> Uninstall software	<ul style="list-style-type: none"> <li>• Open control panel and choose programs and features</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of the Control Panel</li> </ul>	Theory:0.5 Hr. Practical:1Hr. Total: 1.5Hrs.	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

	<ul style="list-style-type: none"> <li>• Select the required software to uninstall</li> <li>• click the "Uninstall" button</li> <li>• Follow the on-screen instructions to uninstall the software</li> </ul>	<ul style="list-style-type: none"> <li>• Learn how to Locate and open the Programs and Features option.</li> <li>• Knowledge to Identify the software to be uninstalled from the list of installed programs.</li> </ul> <p><b>Activity:</b> Use the Control Panel to locate the Programs and Features section, identify a specific software from the installed programs list, and demonstrate the process of uninstalling it safely.</p>		<ul style="list-style-type: none"> <li>• Operating Systems (Windows and Linux)</li> <li>• Bootable Flash drive</li> </ul>	
<b>LU7.</b> Perform windows scan for security threats	<ul style="list-style-type: none"> <li>• Open Windows Security</li> <li>• Navigate to the Virus &amp; Threat Protection section</li> <li>• Select "Virus &amp; Threat Protection"</li> <li>• Click on "Quick Scan."</li> <li>• View Scan Results</li> <li>• Review and Take Action</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the role of Windows Security in protecting the system.</li> <li>• Learn to Identify and navigate to the Virus &amp; Threat Protection section within Windows Security.</li> <li>• Learn to recognize the importance of regularly checking this section for updates and alerts.</li> <li>• Learn to Select the Virus &amp; Threat Protection option to access scanning tools and features.</li> <li>• Understand the types of threats that can be detected and what the results mean.</li> </ul>	Theory:0.25 Hr. Practical: 01Hr. Total:1.25 Hrs.	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Operating Systems (Windows and Linux)</li> <li>• Bootable Flash drive</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<ul style="list-style-type: none"> <li>• Knowledge of the scan results and take appropriate action based on the findings.</li> <li>• Understand the steps to remove detected threats and how to maintain system security.</li> </ul> <p><b>Activity</b> Access Windows Security, navigate to the Virus &amp; Threat Protection section, perform a full system scan, interpret the scan results, and apply the necessary steps to remove or quarantine any detected threats to ensure system safety.</p>			
<b>LU8.</b> Format External storage	<ul style="list-style-type: none"> <li>• Connect the External Storage Device</li> <li>• Open File Explorer</li> <li>• Locate the External Device and Right-Click on the Device Select "Format"</li> <li>• Configure Format Options</li> <li>• Wait for Formatting to Complete</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of different types of external storage devices (USB, HDD, SSD)</li> <li>• Understand the role of File Explorer in managing files and storage devices.</li> <li>• Learn to locate the external storage device in File Explorer.</li> <li>• Understand the implications of different formatting options.</li> </ul> <p><b>Activity</b></p> <ul style="list-style-type: none"> <li>• Connect and disconnect different types of external storage devices.</li> </ul>	Theory:0.25 Hr. Practical:1.5Hr. Total:1.75Hrs.	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Operating Systems (Windows and Linux)</li> <li>• Bootable Flash drive</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<ul style="list-style-type: none"> <li>• Locate the external storage device in File Explorer and right-click to access formatting options.</li> <li>• Monitor the formatting process and document key observations.</li> </ul>			
<b>LU9.</b> Troubleshoot Basic software errors	<ul style="list-style-type: none"> <li>• Restart the Software</li> <li>• Check for Software Updates</li> <li>• Restart Your Computer</li> <li>• Check for Error Messages</li> <li>• Review System Requirements</li> <li>• Check for Conflicts</li> <li>• Disable Add-ons or Extensions</li> <li>• Run as Administrator (Windows)</li> <li>• Check for Disk Space</li> <li>• Reinstall the Software</li> <li>• Restore from Backup</li> <li>• Check for Malware</li> </ul>	<ul style="list-style-type: none"> <li>• Learn to close the software and reopen it to resolve temporary glitches.</li> <li>• Understand that a simple restart can often fix minor issues.</li> <li>• Learn to use the software's built-in update feature to check for updates.</li> <li>• Learn to Install any available updates to ensure the software is up-to-date.</li> <li>• Learn to restart the computer to refresh the system and clear temporary files.</li> <li>• Understand error messages displayed by the software.</li> <li>• Understand how to interpret and act on different types of error messages.</li> <li>• Recognize the computer that meets the software's system requirements.</li> <li>• Understand the importance of compatible hardware and software.</li> </ul>	Theory:0.25 Hr. Practical:1.5 Hr. Total: 1.75 Hrs.	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Operating Systems (Windows and Linux)</li> <li>• Bootable Flash drive</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<ul style="list-style-type: none"> <li>• Learn to identify and resolve conflicts with other software running on the computer.</li> <li>• Understand how software conflicts can impact performance and functionality.</li> <li>• Learn to disable add-ons or extensions that may be causing issues.</li> <li>• Understand that add-ons and extensions can sometimes interfere with software functionality.</li> <li>• Learn to run the software as an administrator to grant it necessary permissions.</li> <li>• Understand how administrative privileges can affect software operation.</li> <li>• Knowledge of sufficient disk space for the software to operate correctly.</li> <li>• Learn to uninstall and then reinstall the software to resolve persistent issues.</li> <li>• Understand that reinstallation can fix corrupted files and restore functionality.</li> <li>• Learn to restore the software from a backup to a previous working state.</li> <li>• Understand security software to scan for and remove</li> </ul>			
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		<p>malware that may affect the software.</p> <ul style="list-style-type: none"> <li>• Understand how malware can impact software performance and security.</li> </ul> <p><b>Activity</b></p> <ul style="list-style-type: none"> <li>• Check the system requirements for different software and ensure compatibility.</li> <li>• Identify and resolve conflicts with other software running on the computer.</li> <li>• Show how to run software as an administrator and understand the benefits.</li> </ul>			
<b>LU10.</b> Troubleshoot Basic hardware faults	<ul style="list-style-type: none"> <li>• Check Connectivity of device</li> <li>• Restart Your Computer</li> <li>• Inspect for Visible Damage</li> <li>• Check for Error Messages</li> <li>• Disconnect and Reconnect Peripherals</li> <li>• Update Drivers and Firmware</li> <li>• Run Hardware Diagnostics</li> <li>• Swap Components</li> <li>• Check for Loose or Unseated Components</li> </ul>	<ul style="list-style-type: none"> <li>• Learn how to ensure all cables and connections are secure and properly connected.</li> <li>• Understand the importance of proper connectivity for device functionality.</li> <li>• Learn to restart the computer to refresh the system and resolve minor hardware issues.</li> <li>• Understand that a simple restart can often fix temporary glitches.</li> <li>• Understand how to inspect hardware components for signs of physical damage.</li> </ul>	Theory:0.25 Hr. Practical:1.5Hr. Total: 1.75 Hrs.	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Operating Systems (Windows and Linux)</li> <li>• Bootable Flash drive</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>



		<ul style="list-style-type: none"> <li>• Knowledge of common indicators of damage, such as frayed cables or broken connectors.</li> <li>• Understand error messages related to hardware issues.</li> <li>• Understand how to interpret and act on different types of error messages.</li> <li>• Learn how to safely disconnect and reconnect peripheral devices like keyboard, mouse, printer.</li> <li>• Understand how peripherals can impact overall system performance.</li> <li>• Knowledge of the device Manager or manufacturer's website to update drivers and firmware.</li> <li>• Understand the importance of keeping drivers and firmware up-to-date.</li> <li>• Understand built-in diagnostic tools or third-party software to run hardware diagnostics.</li> <li>• Learn to interpret diagnostic results to identify potential hardware issues.</li> <li>• Learn to swap components like RAM, hard drive to identify faulty hardware.</li> </ul>			
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		<ul style="list-style-type: none"> <li>• Understand the process of safely swapping hardware components.</li> <li>• Learn how to inspect hardware components to ensure they are securely seated in their connectors.</li> <li>• Understand the impact of loose or unseated components on system performance.</li> </ul> <p><b>Activity</b></p> <ul style="list-style-type: none"> <li>• Inspect and secure hardware components to ensure they are properly seated.</li> </ul>			
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## Module 02: 0611ICT1502 Prepare MS word document

**Objective:** This module covers the skills and knowledge required to create and manage Word documents. It includes understanding the basic interface, tools, and menu management, as well as safety aspects and effective techniques for handling word processing software.

**Duration: 32 Hours**

**Theory: 4 Hours**

**Practical: 28 Hours**

Learning Units	Learning Outcomes	Learning Elements	Duration	Material Required	Learning Place
<b>LU1.</b> Type word document	<ul style="list-style-type: none"> <li>• Open MS word and create a new word file.</li> <li>• Choose a Template (Optional)</li> <li>• Set document Properties</li> <li>• Save the file in desired location with proper name</li> <li>• Type text in a word file</li> <li>• Check for spelling error</li> <li>• Save the file regularly</li> </ul>	<ul style="list-style-type: none"> <li>• Define MS Word, its uses, and key features.</li> <li>• Understand document interface and workspace.</li> <li>• Knowledge of templates.</li> <li>• Learn about document properties.</li> <li>• Understand the keyboard and typing keys.</li> </ul>	Theory:0.5Hr. Practice: 2Hrs Total: 2.5Hrs	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• MS Office</li> <li>• Printer</li> <li>• Paper</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<ul style="list-style-type: none"> <li>• Understand the use spell check feature.</li> <li>• Understand the importance of saving a file.</li> </ul> <b>Activity</b> <ul style="list-style-type: none"> <li>• Create and save a document in MS Word. Type text using the keyboard and use the automatic spell check feature to correct any spelling errors.</li> </ul>			
<b>LU2.</b> Set-up page in Word Document	<ul style="list-style-type: none"> <li>• Click on Layout Tab</li> <li>• Set Margins as per requirement</li> <li>• Set Orientation as per requirement</li> <li>• Set page size</li> <li>• Set indentation</li> <li>• Divide your page into columns as per requirement</li> <li>• Insert a breaks as per requirement</li> <li>• Inset header / footer as per requirement</li> <li>• Insert page number</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of the "Layout" tab in the Word ribbon.</li> <li>• Understand page margins, orientation, size, and indentations.</li> <li>• Concept of Page Layouts including columns, page breaks, section breaks, and line breaks.</li> <li>• Concept of headers, footers, and page numbers and its usage into word document.</li> </ul> <b>Activity</b> <ul style="list-style-type: none"> <li>• Create a Word document and:</li> <li>• Set page margins: top 0.5", bottom 0.75", left 1.25", right 1.5".</li> <li>• Set page orientation to portrait and page size to "Legal".</li> <li>• Apply left/right indentation to different paragraphs.</li> <li>• Create a newsletter layout using three columns.</li> </ul>	Theory:0.5Hr. Practice: 3Hrs Total: 3.5Hrs.	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• MS Office</li> <li>• Printer</li> <li>• Paper</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<ul style="list-style-type: none"> <li>• Divide the page into different sections.</li> <li>• Customize the header/footer for each section.</li> </ul>			
<b>LU3.</b> Edit a document	<ul style="list-style-type: none"> <li>• Insert/remove a new text in word file</li> <li>• Add/remove a page or group of paragraphs</li> <li>• Make the necessary changes as per requirement</li> </ul>	<ul style="list-style-type: none"> <li>• Learn to add or delete text</li> <li>• Learn to insert or delete pages and sections.</li> <li>• Learn to modify or edit content/text.</li> </ul> <p><b>Activity</b></p> <ul style="list-style-type: none"> <li>• Edit a document by adding or removing text and pages</li> </ul>	Theory:0.5Hr. Practice: 3Hrs Total: 3.5Hrs.	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• MS Office</li> <li>• Printer</li> <li>• Paper</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
<b>LU4.</b> Format a word document	<ul style="list-style-type: none"> <li>• Navigate to the editing area</li> <li>• Set Font and Size of text as per requirement</li> <li>• Make text Bold, Italic, and Underline</li> <li>• Set Text Color as per requirement</li> <li>• Highlight the selected Text as per requirement</li> <li>• Apply bullets and numbers</li> <li>• Apply Indentation</li> <li>• Apply paragraph alignment</li> <li>• Apply line spacing</li> <li>• Apply borders</li> <li>• Apply sorting</li> <li>• Apply shading</li> <li>• Find and replace text</li> <li>• Save the changes</li> </ul>	<ul style="list-style-type: none"> <li>• Learn about editing area.</li> <li>• Familiarize basic text formatting (bold, italic, underline, font color, text highlighting, etc.).</li> <li>• Understand how to format paragraphs (bullets, numbering, alignment, spacing, borders, shading, etc.).</li> <li>• Learn to explore the Sort feature.</li> <li>• Knowledge of "Find and Replace" function.</li> <li>• Understand the importance of saving documents.</li> </ul> <p><b>Activity</b></p> <ul style="list-style-type: none"> <li>• Create and save a document in Word, then:</li> <li>• Apply different text formatting.</li> <li>• Apply paragraph formatting.</li> </ul>	Theory:0.5Hr Practice: 6Hrs Total: 6.5Hrs.	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• MS Office</li> <li>• Printer</li> <li>• Paper</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

<b>LU5.</b> Insert elements in a Word Document	<ul style="list-style-type: none"> <li>• Navigate to insert tab</li> <li>• Select from pages to insert page as per requirement</li> <li>• Apply page break</li> <li>• Insert table as per requirement</li> <li>• Apply different table design as per requirement</li> <li>• Insert different illustration as per requirement</li> <li>• Insert hyperlinks or bookmark as per requirement</li> <li>• Insert comment in a document</li> <li>• Insert text box in the document</li> <li>• Apply word Art</li> <li>• Apply drop cap on text</li> <li>• Insert signature, date and time and different objects</li> <li>• Insert symbols &amp; Equation as per requirement</li> </ul>	<ul style="list-style-type: none"> <li>• Learn to explore the Insert tab.</li> <li>• Understand page breaks.</li> <li>• Understand concept of tables.</li> <li>• Knowledge of various table styles.</li> <li>• Knowledge of different types of illustrations.</li> <li>• Understand hyperlinks, bookmarks, comments, textboxes, WordArt, drop caps, signatures, date/time stamps, and other objects.</li> </ul> <p><b>Activity</b> Create a document in Word and include a cover page and a blank page. Insert page breaks where necessary, and create a timetable while applying table styles. Add shapes, images, SmartArt, and charts to enhance the document. Insert links to external websites and create internal document navigation using bookmarks. Additionally, apply WordArt for stylized text and use drop caps for the first letter of a paragraph.</p>	Theory:0.5Hr. Practice: 6Hrs Total: 6.5Hrs.	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• MS Office</li> <li>• Printer</li> <li>• Paper</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
<b>LU6.</b> Insert Table of contents in a Word Document	<ul style="list-style-type: none"> <li>• Select different headings as per requirements</li> <li>• Locate table of contents option (normally in Reference Tab)</li> </ul>	<ul style="list-style-type: none"> <li>• Understand predefined heading styles</li> <li>• Learn various ways to create "Table of Contents"</li> </ul> <p><b>Activity</b></p>	Theory:0.5Hr Practice: 3Hrs Total: 3.5Hrs.	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• MS Office</li> <li>• Printer</li> <li>• Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room/</li> <li>• Computer Lab</li> </ul>

	<ul style="list-style-type: none"> <li>• Select the required table of contents (Automatic, Manual) as per requirement</li> <li>• Insert Table of contents at desired location</li> <li>• Update table of contents</li> </ul>	Insert both automatic and manual tables of contents into your document. After modifying headings or content, update the Table of Contents to reflect the changes.		<ul style="list-style-type: none"> <li>• Internet Connection</li> </ul>	
<b>LU7.</b> Protect Document with Password	<ul style="list-style-type: none"> <li>• Select file tab</li> <li>• Select info</li> <li>• Select Protect Document</li> <li>• Encrypt with Password</li> <li>• Enter and confirm your password</li> </ul>	<ul style="list-style-type: none"> <li>• Purpose and importance of document protection</li> <li>• Awareness of password encryption in MS Office</li> <li>• Guidelines for creating secure passwords</li> </ul> <p><b>Activity</b> Create a document and apply password protection to encrypt it with password, ensuring its security.</p>	Theory:0.5Hr. Practice: 3Hrs Total: 3.5Hrs.	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• MS Office</li> <li>• Printer</li> <li>• Paper</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
<b>LU8.</b> Print the file	<ul style="list-style-type: none"> <li>• Open the document</li> <li>• Click on file tab and select print</li> <li>• Set printer options</li> <li>• Click print</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of Choosing the correct printer from the list of available devices.</li> <li>• Learn to adjust print settings such as number of copies, page range, and orientation</li> </ul> <p><b>Activity</b> Open an existing document and print it by setting printer options, such as selecting a printer, adjusting the number of copies, and specifying the page range.</p>	Theory: 0.5Hr. Practice: 2Hrs Total: 2.5Hrs.	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• MS Office</li> <li>• Printer</li> <li>• Paper</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

### Module 03: 0611ICT1503 Prepare Spreadsheet

**Objective:** This module covers the essential skills and knowledge required to create and manage spreadsheets. It also includes understanding the basic interface, tools, and menu management, along with safety aspects and effective techniques for handling spreadsheet software.

**Duration: 32 Hours**

**Theory: 4 Hours**

**Practical: 28 Hours**

Learning Units	Learning Outcomes	Learning Elements	Duration	Material Required	Learning Place
<b>LU1.</b> Create workbook	<ul style="list-style-type: none"> <li>• Create workbook and worksheet</li> <li>• Add/Remove worksheet in workbook</li> <li>• Insert/remove rows and columns in worksheet</li> <li>• Protect Workbook/ worksheet with password</li> </ul>	<ul style="list-style-type: none"> <li>• Concept and purpose of MS Excel.</li> <li>• Key features and applications of Excel.</li> <li>• Excel Graphical User Interface (GUI).</li> <li>• Structure of workbooks and worksheets.</li> <li>• Cells, active cells, cell references, rows, columns, and tables.</li> <li>• Importance of workbook and worksheet protection.</li> </ul> <p><b>Activity</b> Create a new blank workbook and perform the following tasks: add or delete multiple worksheets, insert or delete rows and columns, and set a password for both individual worksheets and the entire workbook.</p>	Theory: 0.5Hr Practice: 4Hrs Total: 4.5Hrs	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• MS Office</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
<b>LU2.</b> Enter and format data in cell	<ul style="list-style-type: none"> <li>• Enter different types of data as per requirements</li> <li>• Apply font formatting on data as per requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of different data types, font formatting, data alignment, number formatting, and conditional formatting.</li> </ul>	Theory: 1Hr Practice: 5Hrs Total: 6Hrs	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• MS Office</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

	<ul style="list-style-type: none"> <li>• Apply alignment on data as per requirements.</li> <li>• Apply different number formatting on data as per requirements</li> <li>• Apply different conditional formatting as per requirements</li> </ul>	<b>Activity</b> Prepare a workbook in Excel and complete the following tasks: use conditional formatting to highlight cells that meet specific criteria, such as values greater than a set number; apply percentage formatting to relevant data; and change the date format, for example, from MM/DD/YYYY to DD/MM/YYYY.		<ul style="list-style-type: none"> <li>• Internet Connection</li> </ul>	
<b>LU3.</b> Apply different mathematical formulas	<ul style="list-style-type: none"> <li>• Perform basic mathematical operations on data as per requirements.</li> <li>• Apply different built-in mathematical formulas on data as per requirements</li> <li>• Apply different text formulas on data as per requirements.</li> <li>• Apply basic relational operations on data as per requirements.</li> <li>• Apply basic logical operations on data as per requirements</li> <li>• Apply IF, IFERROR formula on data as per requirements</li> <li>• Apply LOOKUP, VLOOKUP, HLOOKUP formulas as per requirements.</li> </ul>	<ul style="list-style-type: none"> <li>• Basic mathematical operations in Excel.</li> <li>• Difference between formulas and functions.</li> <li>• Built-in mathematical functions.</li> <li>• Text manipulation functions.</li> <li>• Comparison operators and logical functions.</li> <li>• Purpose, use, and syntax of IF, IFERROR, LOOKUP, VLOOKUP, and HLOOKUP functions.</li> </ul> <b>Activity</b> <ul style="list-style-type: none"> <li>• Prepare a workbook in Excel and perform the following tasks:</li> <li>• Calculate percentages using basic operations</li> <li>• Calculate the total and average using functions.</li> </ul>	Theory: 1Hr Practice: 9Hrs Total: 10Hrs	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• MS Office</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>



		<p>Extract specific portions of text using the LEFT, RIGHT, or MID functions.</p> <ul style="list-style-type: none"> <li>• Use relational operators to find values greater than 100,</li> <li>• Check multiple conditions using AND or OR.</li> <li>• Implement the IF function to return different values based on specific conditions, such as "Pass" or "Fail."</li> <li>• Use HLOOKUP to search for data in a horizontal table.</li> </ul>			
<b>LU4.</b> Apply page layout setting	<ul style="list-style-type: none"> <li>• Apply different theme to worksheet as per requirements.</li> <li>• Apply margin setting as per requirements</li> <li>• Apply orientation setting as per requirements.</li> <li>• Apply page size setting as per requirements.</li> <li>• Print selected Area from sheet as per requirements.</li> <li>• Apply different background to sheet as per requirements.</li> </ul>	<ul style="list-style-type: none"> <li>• Define built-in themes in Excel.</li> <li>• Knowledge of margin, orientation, and page size settings.</li> <li>• Understand the "Print Area" feature.</li> </ul> <p><b>Activity]</b></p> <ul style="list-style-type: none"> <li>• Create a workbook in Excel and complete the following tasks: apply a theme color to the worksheet, set customized margins, and apply portrait orientation. Customize the page size as needed, then apply an image to the sheet's background. Finally, set the print area to specify the portion of the worksheet to be printed.</li> </ul>	<p>Theory: 0.5Hr Practice: 5Hrs Total: 5.5Hrs</p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• MS Office</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
<b>LU5.</b> Insert charts and graphs	<ul style="list-style-type: none"> <li>• Insert different data as per requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Understand different types of data</li> </ul>	<p>Theory: 1Hr Practice: 5Hrs</p>	<ul style="list-style-type: none"> <li>• Computer System</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> </ul>

	<ul style="list-style-type: none"> <li>• Select data as per requirements</li> <li>• Implement different charts as per requirements</li> <li>• Apply different chart design as per requirements.</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of different chart types and predefined chart designs</li> </ul> <p><b>Activity</b>          Prepare a workbook in Excel and perform the following tasks: import data from external files, create different types of charts (such as pie, column, and line charts), and apply various chart layouts and styles to enhance the presentation of the data.</p>	Total: 6Hrs	<ul style="list-style-type: none"> <li>• MS Office</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Computer Lab</li> </ul>
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#### Module 04: 0611ICT1504 Create presentation in MS PowerPoint

**Objective:** This module covers the skills and knowledge required to prepare effective presentations. It also introduces the basic interface, tools, menu management, and techniques for handling presentations.

**Duration: 20 Hours**

**Theory: 4 Hours**

**Practical: 16 Hours**

Learning Units	Learning Outcomes	Learning Elements	Duration	Material Required	Learning Place
<b>LU1.</b> Create and manage slides	<ul style="list-style-type: none"><li>• Insert slides as per requirements.</li><li>• Remove slides as per requirements.</li><li>• Apply different slides layout as per requirements</li><li>• Apply font setting on text as per requirements.</li><li>• Apply different paragraph formatting as per requirements</li><li>• Insert different illustrations in presentation as per requirements.</li><li>• Insert and manage different shapes in presentation as per requirements.</li><li>• Find and replace text in presentation as per requirements.</li><li>• Save the presentation in desired location.</li></ul>	<ul style="list-style-type: none"><li>• Understand the purpose and use of presentations</li><li>• Familiarize with the PowerPoint graphical user interface (GUI)</li><li>• Learn to select, move, add, and delete slides</li><li>• Understand different slide layouts</li><li>• Understand text and paragraph formatting</li><li>• Define and use various illustrations</li><li>• Learn how to manipulate shapes within slides</li><li>• Learn the purpose of the "Find and Replace" feature</li><li>• Understand the importance of saving presentations</li></ul> <p><b>Activity</b> Prepare a presentation and perform the following tasks: add slides, change slide layouts to adjust content, modify text font, size, and color, insert images,</p>	Theory: 1.5Hr Practice: 6Hrs Total: 7.5Hrs	<ul style="list-style-type: none"><li>• Computer System</li><li>• MS Office</li><li>• Internet Connection</li></ul>	<ul style="list-style-type: none"><li>• Class Room</li><li>• Computer Lab</li></ul>

		charts, and visuals, and insert and format shapes.			
<b>LU2.</b> Design presentation	<ul style="list-style-type: none"> <li>• Apply different theme to presentation as per requirements</li> <li>• Apply different slides size as per requirements.</li> <li>• Apply different background to slides as per requirements.</li> <li>• Apply different transitions to slides as per requirements.</li> <li>• Apply different transition control (timing) setting to slides as per requirements.</li> </ul>	<ul style="list-style-type: none"> <li>• Define themes and their purpose in presentations</li> <li>• Identify various pre-built themes and their features</li> <li>• Learn to customize themes</li> <li>• Understand slide backgrounds and their application</li> <li>• Define slide transitions and types of transitions</li> <li>• Learn to set slide transition timings</li> <li>• Understand the difference between automatic and manual slide transition timings</li> </ul> <p><b>Activity</b> Prepare a presentation and perform the following tasks: choose a theme and customize its colors and fonts, apply a background image or color to slides, and set slide transitions with automatic timings for smooth flow.</p>	Theory: 1.5Hr Practice: 6Hrs Total: 7.5Hrs	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• MS Office</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
<b>LU3.</b> Apply animations and slides show setting	<ul style="list-style-type: none"> <li>• Apply different animations to text as per requirements.</li> <li>• Apply different animation setting to text as per requirements.</li> <li>• Run slides show in different ways as per requirements.</li> </ul>	<ul style="list-style-type: none"> <li>• Define animations and their role</li> <li>• Understand animation settings</li> <li>• Learn the concept of slideshows</li> </ul> <p><b>Activity</b></p>	Theory: 1Hr Practice: 4 Hrs. Total: 5Hrs	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• MS Office</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		Prepare a presentation and perform the following tasks: apply different animation effects to various text boxes, set the animation timing and sequence for each element, and then run the slideshow in "Rehearse Timings" mode.			
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## Module 05: 0611ICT1505 Create basic database using MS Access

**Objective:** After this Module the candidate will be able to prepare basic database.

**Duration: 32 Hours**

**Theory: 6 Hours Practical:26 Hours**

Learning Units	Learning Outcomes	Learning Elements	Duration	Material Required	Learning Place
<b>LU1.</b> Create Database in MS Access	<ul style="list-style-type: none"><li>• Create Blank Database.</li><li>• Create table in database as per requirements</li><li>• Insert different fields with suitable types as per requirements.</li><li>• Apply different keys on table.</li><li>• Apply different constraints on fields as per requirements.</li><li>• Insert data in table as per requirements.</li><li>• Apply different table views.</li><li>• Save database in desired location.</li></ul>	<ul style="list-style-type: none"><li>• Learn the process of creating a new, blank database in MS Access.</li><li>• Understand the initial steps and settings required to set up the database.</li><li>• Learn how to create tables within the MS Access database according to specified requirements.</li><li>• Understand the different table design options and their significance.</li><li>• Learn how to add fields to tables with appropriate data types e.g text, number date/time</li><li>• Learn about primary keys and their importance in uniquely identifying records.</li><li>• Understand how to set primary keys and foreign keys in tables.</li><li>• Learn about various constraints that can be applied to fields.</li></ul>	Theory:1.5 Hr Practice:9 Hrs. Total: 10.5Hrs.	<ul style="list-style-type: none"><li>• Computer system</li><li>• MS Office</li></ul>	<ul style="list-style-type: none"><li>• Class Room</li><li>• Computer Lab</li></ul>

		<ul style="list-style-type: none"> <li>• Learn how to enter data into tables manually or through data import options.</li> <li>• Learn about different table views</li> <li>• Learn how to save the MS Access database in a specified location.</li> </ul> <p><b>Activity</b> Design and manage database tables by applying keys to enforce data integrity, implementing field-level constraints as required, and inserting data into tables according to given specifications.</p>			
<b>LU2.</b> Establish relationships between tables	<ul style="list-style-type: none"> <li>• Create multiple tables as per requirements.</li> <li>• Create one-to-one relationship between tables as per requirements.</li> <li>• Create one-to-many relationship between tables as per requirements.</li> <li>• Create many-to-many relationship between tables as per requirements.</li> </ul>	<ul style="list-style-type: none"> <li>• Learn to analyze the data and determine how to divide it into multiple tables.</li> <li>• Knowledge of SQL or a database management system to create the tables.</li> <li>• Learn how to determine which entities have a one-to-one relationship.</li> <li>• Learn to decide which table will hold the primary key.</li> <li>• Learn to implement a foreign key in the second table referencing the primary key of the first table.</li> <li>• Learn to determine which entities have a one-to-many relationship</li> </ul>	Theory: 1.5 hr Practice: 8Hrs Total: 9.5Hrs	<ul style="list-style-type: none"> <li>• Computer system</li> <li>• MS Office</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<ul style="list-style-type: none"> <li>• Knowledge of SQL to create the foreign key constraint in the many tables.</li> <li>• Learn to determine which entities have a many-to-many relationship.</li> <li>• Knowledge of establishing a primary key in the "one" table and a corresponding foreign key in the "many" tables.</li> <li>• Knowledge of SQL to create the foreign key constraint in the "many" tables.</li> </ul> <p><b>Activity</b> Design and implement a database with relationships between tables based on given requirements.</p>			
<b>LU3.</b> Create Forms	<ul style="list-style-type: none"> <li>• Create form as per requirements.</li> <li>• Design form interface as per requirements.</li> <li>• Insert different data controls to Enter, Update, Delete, Modify data from table.</li> <li>• Insert different data into tables using form interface</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the purpose of forms in a database and how to create them.</li> <li>• Learn how to use the Form Wizard to create forms quickly and efficiently.</li> <li>• Understand how to customize forms to meet specific needs.</li> <li>• Understand the principles of designing an effective form interface.</li> <li>• Learn how to arrange form controls and ensure proper alignment.</li> <li>• Knowledge about the importance of aesthetics and usability in form design.</li> </ul>	Theory:1.5 Hr Practical:5Hrs. Total:6.5 Hrs.	<ul style="list-style-type: none"> <li>• Computer system</li> <li>• MS Office</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>



		<ul style="list-style-type: none"> <li>• Understand the different types of data controls available in MS Access (e.g., text boxes, combo boxes, command buttons).</li> <li>• Learn how to set and configure properties for data controls to enable data entry, updates, deletion, and modification.</li> <li>• Learn how to use events (e.g., OnClick, OnChange) to add functionality to controls</li> <li>• Understand how to use the form interface for data entry and modification.</li> <li>• Learn how to navigate through records in the form and add new records.</li> <li>• Learn to ensure that the data entered through the form adheres to the defined constraints and validation rules.</li> </ul> <p><b>Activity</b></p> <ul style="list-style-type: none"> <li>• Customize the form by adding or removing fields, changing the layout, and setting properties.</li> <li>• Apply formatting options (e.g., colors, fonts) to enhance the visual appeal and usability of the form.</li> </ul>			
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<b>LU4.</b> Create query and reports	<ul style="list-style-type: none"> <li>• Create/Run different queries as per requirements.</li> <li>• Create reports as per requirements.</li> <li>• Design reports as per requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the different types of queries (e.g., Select, Update, Append, Delete) and their purposes.</li> <li>• Learn how to design queries using the Query Design View and Query Wizard.</li> <li>• Learn how to select appropriate data sources (tables or queries) for the report.</li> <li>• Understand how to group and sort data in the report to enhance readability and organization.</li> <li>• Learn how to design the layout of a report, including arranging controls and setting margins.</li> <li>• Understand how to apply formatting options (e.g., fonts, colors, borders) to improve the report's appearance.</li> <li>• Learn about the different sections of a report (e.g., Report Header, Page Header, Detail, Footer) and their functions.</li> </ul> <p><b>Activity</b></p> <ul style="list-style-type: none"> <li>• Use the Report Wizard to create a basic report, selecting the desired data source and layout.</li> <li>• Add and configure report sections to include headers,</li> </ul>	<p>Theory:1.5Hr Practical:4Hrs. Total:5.5Hrs.</p>	<ul style="list-style-type: none"> <li>• Computer system</li> <li>• MS Office</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
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		footers, and detail areas that display relevant information.			
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### Module 06: 0611ICT1506 Prepare InPage document

**Objective:** After this module candidate will be able to prepare In Page document. It also deals with basic interface, tools/menu management and In-page application software handling techniques.

**Duration: 28 Hours**

**Theory: 04 Hours**

**Practical: 24 Hours**

Learning Units	Learning Outcomes	Learning Elements	Duration	Material Required	Learning Place
<b>LU1.</b> Create a new Document in InPage	<ul style="list-style-type: none"> <li>• Launch InPage</li> <li>• Select the document type as per requirement</li> <li>• Select page size as per requirement</li> <li>• Set the Language as per requirement</li> <li>• Set language layout preference</li> <li>• Create Document</li> </ul>	<ul style="list-style-type: none"> <li>• Understand how to start InPage from the operating system.</li> <li>• Understand the InPage interface, including menus and toolbars.</li> <li>• Understand different document types available in InPage (e.g., Single Page, Double Page, Booklet).</li> <li>• Understand navigating and selecting the required document type.</li> <li>• Understand the standard page sizes (e.g., A4, A5, Custom).</li> </ul>	Theory:1Hr Practice: 6Hrs Total: 7Hrs	<ul style="list-style-type: none"> <li>• Computer system</li> <li>• InPage</li> <li>• Printer</li> <li>• Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<ul style="list-style-type: none"> <li>• Understand how to set custom page sizes as per the specific needs</li> <li>• Knowledge of language options available in InPage.</li> <li>• Understand how to set the desired language for the document.</li> <li>• Learn about various language layout preferences (e.g., RTL, LTR).</li> </ul> <p><b>Activity</b></p> <ul style="list-style-type: none"> <li>• Create a new document in InPage with specific settings based on given requirements.</li> </ul>			
<b>LU2.</b> Insert images and objects	<ul style="list-style-type: none"> <li>• Select the element as per requirement</li> <li>• Insert the object at desired place as per requirement.</li> </ul>	<ul style="list-style-type: none"> <li>• Learn about different types of elements that can be inserted (images, shapes, text boxes, etc.).</li> <li>• Understand how to select the required element from the toolbar or menu.</li> <li>• Learn how to position elements accurately within the document.</li> <li>• Understand how to adjust the size, orientation, and other properties of the inserted elements.</li> </ul> <p><b>Activity</b></p>	Theory:1Hr Practice: 6Hrs Total: 7Hrs	<ul style="list-style-type: none"> <li>• Computer system</li> <li>• InPage</li> <li>• Printer</li> <li>• Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<ul style="list-style-type: none"> <li>• Insert images and objects into a document with specific placement and properties based on given requirements</li> </ul>			
<b>LU3.</b> Perform formatting and style setting	<ul style="list-style-type: none"> <li>• Set font styles</li> <li>• Set font color</li> <li>• Perform paragraph formatting as per requirement</li> <li>• Perform spell checking</li> <li>• Perform grammar checking</li> </ul>	<ul style="list-style-type: none"> <li>• Learn about different font styles and their appropriate use cases.</li> <li>• Understand how to apply font styles (bold, italics, underline) in InPage.</li> <li>• Understand the color theory and its impact on readability.</li> <li>• Learn how to change font colors and use them effectively.</li> <li>• Understand how to align text (left, center, right, justify) and set line spacing.</li> <li>• Learn how to use indentation and bullet points for organizing content.</li> <li>• Knowledge of spell-check tools available in InPage.</li> </ul> <p><b>Activity</b> Apply various formatting and style settings to a document to enhance its readability and presentation.</p>	Theory: 1Hr Practice: 6Hrs Total: 7Hrs	<ul style="list-style-type: none"> <li>• Computer system</li> <li>• InPage</li> <li>• Printer</li> <li>• Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

<p><b>LU4.</b> Print the document</p>	<ul style="list-style-type: none"> <li>• Open the document to be printed in InPage.</li> <li>• Select print from file menu</li> <li>• select the printer</li> <li>• Select the number of copies to be printed</li> <li>• Select range for printing</li> <li>• Print Preview the document before printing</li> <li>• Click print</li> </ul>	<ul style="list-style-type: none"> <li>• Understand InPage's file menu and interface.</li> <li>• Understand how to navigate to the print option in the file menu</li> <li>• Understand how to choose the correct printer from the available list..</li> <li>• Learn how to specify the number of copies required for printing.</li> <li>• Understand how to set the range for printing (e.g., all pages, specific pages).</li> <li>• Learn how to define a custom range of pages to be printed.</li> <li>• Understand the importance of print preview to check the layout and formatting.</li> <li>• Learn how to make necessary adjustments based on the print preview.</li> <li>• Learn how to finalize the printing process by clicking the print button.</li> </ul> <p><b>Activity</b> Print a document in InPage by following the specified steps to ensure accurate and efficient printing.</p>	<p>Theory: 1Hr Practice:6Hrs. Total: 7Hrs.</p>	<ul style="list-style-type: none"> <li>• Computer system</li> <li>• InPage</li> <li>• Printer</li> <li>• Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
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## Module 07: 0611ICT1507 Manage Email using outlook

**Objective:** After this module candidate will be able to manage email using outlook.

**Duration: 12 Hours**

**Theory: 03 Hour**

**Practical: 09Hours**

Learning Units	Learning Outcomes	Learning Elements	Duration	Material Required	Learning Place
<b>LU1.</b> Create email account on MS outlook.	<ul style="list-style-type: none"><li>• Create email account and login.</li><li>• Compose mail as per requirements.</li><li>• Apply attachments as per requirements.</li><li>• Send mail as per requirements.</li><li>• Receive mail as per requirements.</li><li>• View received mail.</li><li>• Forward mail as per requirements.</li><li>• Arrange mails in folders as per requirements.</li><li>• Delete unwanted mail as per requirements.</li><li>• Manage archive mails as per requirements.</li><li>• Save mails locally or Cloud as per requirements</li></ul>	<ul style="list-style-type: none"><li>• Learn the steps to create a new email account on MS Outlook.</li><li>• Understand how to log in to the created account.</li><li>• Learn the essentials of composing an email, including subject lines and email body.</li><li>• Understand how to format text, add bullet points, and use other text editing tools.</li><li>• Learn about different types of attachments (documents, images, etc.).</li><li>• Understand how to attach files to an email.</li><li>• Learn how to add recipients to an email (To, CC, BCC).</li><li>• Understand how to send the composed email.</li><li>• Learn how to check and manage incoming emails.</li><li>• Understand how to open and read received emails.</li><li>• Learn how to organize emails within the inbox.</li></ul>	Theory:1Hr Practice: 3Hrs. Total: 4 Hrs.	<ul style="list-style-type: none"><li>• Computer System</li><li>• Outlook</li><li>• Internet</li></ul>	<ul style="list-style-type: none"><li>• Class Room</li><li>• Computer Lab</li></ul>

		<ul style="list-style-type: none"> <li>• Learn the steps to forward emails to other recipients.</li> <li>• Understand how to add or modify the content before forwarding.</li> <li>• Learn how to create folders for organizing emails.</li> <li>• Understand how to move emails to specific folders.</li> <li>• Learn how to delete unwanted emails from the inbox and other folders.</li> <li>• Understand how to recover emails from the trash folder if needed.</li> <li>• Learn how to archive old emails for future reference.</li> <li>• Understand how to access and manage archived emails.</li> <li>• Learn how to save emails locally on your computer or in the cloud.</li> <li>• Understand the process of backing up emails for data security.</li> </ul> <p><b>Activity</b> Create and manage an email account on MS Outlook, including composing, sending, receiving, and organizing emails.</p>			
<b>LU2.</b> Apply security and encryption	<ul style="list-style-type: none"> <li>• Apply built-in filters to unwanted mails as per requirements.</li> <li>• Mark legitimate mail as Not Junk as per requirements.</li> </ul>	<ul style="list-style-type: none"> <li>• Learn how to enable and configure built-in spam filters in MS Outlook.</li> <li>• Understand how to create and manage filter rules to</li> </ul>	Theory: 1Hr. Practice: 3Hrs. Total: 4Hrs.	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Outlook</li> <li>• Internet</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>



	<ul style="list-style-type: none"> <li>• Report spam mail.</li> <li>• Apply digital signature to verify authenticity as per requirements</li> </ul>	<p>automatically sort and delete unwanted emails.</p> <ul style="list-style-type: none"> <li>• Learn how to access the Junk Mail folder.</li> <li>• Understand how to mark legitimate emails as "Not Junk" to ensure they land in the inbox.</li> <li>• Get familiar with tools available in MS Outlook for reporting spam.</li> <li>• Learn how to report spam emails to help improve spam filters.</li> <li>• Understand what digital signatures are and their importance in verifying email authenticity.</li> <li>• Learn how to apply a digital signature to outgoing emails.</li> </ul> <p><b>Activity</b> Improve the security of email communication by applying built-in filters, managing junk mail, reporting spam, and using digital signatures.</p>			
<b>LU3.</b> Backup and Restore mails	<ul style="list-style-type: none"> <li>• Take backup of outlook account.</li> <li>• Restore mails from backup as per requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Learn about different backup options available in MS Outlook.</li> <li>• Understand how to export emails and other data to a backup file (e.g., PST file).</li> <li>• Learn where to store the backup files (locally, external drive, cloud storage).</li> </ul>	Theory:1Hr Practical:3Hrs. Total:4Hrs.	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Outlook</li> <li>• Internet</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<ul style="list-style-type: none"> <li>• Understand how to import emails and other data from a backup file.</li> <li>• Learn how to manage restored data to ensure it integrates smoothly with current emails.</li> </ul> <p><b>Activity</b> Take a backup of your Outlook account and restore emails from the backup to ensure data security and recovery.</p>			
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## Module 08: 0611ICT1508 Create video conference using team

**Objective:** This module aims to provide individuals with the essential skills and knowledge required to create Video conference using team.

**Duration: 12 Hours**

**Theory: 03 Hours**

**Practical: 09 Hours**

Learning Units	Learning Outcomes	Learning Elements	Duration	Material Required	Learning Place
<b>LU1.</b> Schedule a Meeting:	<ul style="list-style-type: none"> <li>• Login MS Team account</li> <li>• access calendar view</li> <li>• create new meeting event</li> <li>• Enter Meeting Details (Title, Date, Time, duration and location etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• Learn how to log in to your MS Teams account using your credentials.</li> <li>• Understand how to navigate to different sections within MS Teams.</li> <li>• Learn how to find and access the calendar view in MS Teams.</li> <li>• Learn how to select the option to create a new meeting event.</li> <li>• Understand the steps involved in creating a new meeting event.</li> <li>• Learn how to enter meeting details such as title, date, time, duration, and location.</li> <li>• Understand how to set additional options like recurring meetings, meeting reminders, and more.</li> </ul> <p><b>Activity</b> Schedule a meeting in MS Teams by following the specified steps to ensure</p>	Theory:0.5Hr Practice: 3Hrs. Total: 3.5Hrs.	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet</li> <li>• MS Teams</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		accurate and efficient meeting setup.			
<b>LU2.</b> Send Meeting Invitation	<ul style="list-style-type: none"> <li>• Select the meeting options as per requirement</li> <li>• Add the email addresses of the people in meeting details</li> <li>• send out the meeting invitations to the selected participants</li> </ul>	<ul style="list-style-type: none"> <li>• Learn about different meeting options available in MS Teams (e.g., allow attendees to bypass the lobby, mute attendees upon entry).</li> <li>• Understand how to customize meeting options according to specific requirements.</li> <li>• Learn how to add participants' email addresses to the meeting invitation.</li> <li>• Understand how to manage and update the list of attendees if needed.</li> <li>• Learn the process of sending out meeting invitations to participants.</li> <li>• Understand how to confirm that invitations have been successfully sent.</li> </ul> <p><b>Activity</b> Send out meeting invitations in MS Teams, ensuring that all required participants receive the invitation with the correct details.</p>	Theory:2Hr Practice: 3Hrs. Total:5Hrs.	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet</li> <li>• MS Teams</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
<b>LU3.</b> Join and Manage the Video Conference (from participant side)	<ul style="list-style-type: none"> <li>• Join the meeting as per requirement</li> <li>• Turn on or off the video camera as per requirement</li> <li>• Turn on or off the microphone as per requirement</li> </ul>	<ul style="list-style-type: none"> <li>• Learn about different ways to join a meeting (e.g., via link, calendar invite, MS Teams app).</li> </ul>	Theory:10 mints Practical:1Hr Total:1 Hr .10 minutes	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet</li> <li>• MS Teams</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

	<ul style="list-style-type: none"> <li>• share screen with participants as per requirement</li> <li>• Chat with participant as per requirement</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the steps to join the meeting and enter the virtual room.</li> <li>• Learn how to turn the video camera on and off.</li> <li>• Understand when it is appropriate to use the video camera.</li> <li>• Learn how to mute and unmute the microphone.</li> <li>• Learn how to share your screen with other participants.</li> <li>• Learn how to use the chat feature to communicate with participants.</li> </ul> <p><b>Activity</b> Effectively join and manage a video conference as a participant in MS Teams, utilizing various controls and features.</p>			
<b>LU4.</b> Manage Participants (from admin side)	<ul style="list-style-type: none"> <li>• Set the lobby option to admit participants from the lobby to the meeting.</li> <li>• Mute or unmute participants' audio individually or all at once as per requirement</li> <li>• Remove participants from meeting as per requirement</li> <li>• Manage screen sharing as per requirement</li> <li>• Record the meeting as per requirement</li> </ul>	<ul style="list-style-type: none"> <li>• Learn how to configure the lobby settings to control who can bypass the lobby and who needs to be admitted.</li> <li>• Understand how to admit participants from the lobby to the meeting.</li> <li>• Learn how to mute and unmute participants' audio individually.</li> <li>• Understand how to mute or unmute all participants at once.</li> </ul>	Theory:10 mints Practical:1Hr Total:1 hr , 10 minutes	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet</li> <li>• MS Teams</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<ul style="list-style-type: none"> <li>• Learn how to remove a participant from the meeting.</li> <li>• Understand how to re-admit participants if necessary.</li> <li>• Learn how to manage and control who can share their screen during the meeting.</li> <li>• Understand how to grant or revoke screen sharing permissions.</li> <li>• Learn how to start and stop recording the meeting.</li> <li>• Understand how to access and share the recorded meeting.</li> </ul> <p><b>Activity</b> Effectively manage participants in a video conference as an admin in MS Teams, utilizing various controls and features.</p>			
<b>LU5.</b> Manage meeting ending	<ul style="list-style-type: none"> <li>• Share the recording link with participants if needed.</li> <li>• Share files, chat transcripts, meeting notes, and action items with participants through Teams channels or chats.</li> <li>• "End Meeting" to leave the conference.</li> </ul>	<ul style="list-style-type: none"> <li>• Learn how to locate and access the recording of the meeting in MS Teams.</li> <li>• Understand how to share the recording link with participants via Teams channels, chats, or email.</li> <li>• Learn how to share files and documents with participants through Teams channels or chats.</li> <li>• Understand how to download and share chat transcripts from the meeting.</li> </ul>	<p>Theory: 10 mints Practical:1Hr Total: 1 Hr 10 minutes</p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet</li> <li>• MS Teams</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<ul style="list-style-type: none"> <li>• Learn how to share meeting notes and action items with participants to ensure follow-up.</li> <li>• Understand how to properly end the meeting for all participants.</li> <li>• Learn about any post-meeting actions that may be needed.</li> </ul> <p><b>Activity</b> Effectively manage the ending of a meeting in office Teams, ensuring that all necessary information is shared and the meeting is properly concluded.</p>			
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## Module 09: 0611ICT1509 Browse internet and Manage Emails

**Objective:** After this module candidate will be able to perform searching on web using various search engines. The candidate shall be able to manage email accounts effectively and efficiently using mail services e.g. Gmail, yahoo, Hotmail/live etc.

**Duration: 12 Hours**

**Theory: 03 Hours**

**Practical: 09 Hours**

Learning Units	Learning Outcomes	Learning Elements	Duration	Material Required	Learning Place
<b>LU1.</b> Perform browsing using different browsers	<ul style="list-style-type: none"> <li>• Browse websites using different Browsers.</li> <li>• Download / upload files, images and videos.</li> <li>• Save/retrieve files and digital media.</li> <li>• Manage browser settings.</li> <li>• Manage browser Extensions.</li> <li>• Perform bookmark of URLs.</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of popular web browsers such as Chrome, Firefox, Edge, and Safari.</li> <li>• Understanding of downloading and uploading processes, including file formats, compatibility, and storage.</li> <li>• Knowledge of methods for organizing, retrieving, and accessing files and digital media through browser tools.</li> <li>• Understanding of browser settings, including homepage, search engine, privacy, and appearance options.</li> <li>• Knowledge of browser security features such as pop-up blockers, cookie management, privacy modes, and password managers.</li> <li>• Understanding of browser extensions, their types (ad blockers, productivity,</li> </ul>	Theory:1Hr. Practice:03Hrs. Total: 4Hrs.	<ul style="list-style-type: none"> <li>• Computer System/PC</li> <li>• Web Browsers</li> <li>• Internet connectivity</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>



		<p>security), installation, configuration, and removal.</p> <ul style="list-style-type: none"> <li>• Knowledge of bookmark management, including creation, organization, and use of folders for quick access.</li> </ul> <p><b>Activity 01:</b>  You are preparing a research assignment and need to use web browsers to gather, organize, and manage resources effectively. Open at least two browsers (such as Chrome and Firefox) and compare their layouts, homepage, and default search settings. Download three different files (a PDF, an image, and a software installer) and save them in appropriate folders. Use the browser's Download Manager and History to retrieve one of the files you downloaded. Once done, organize all your files into clearly labeled folders such as <i>Assignments</i> and <i>Images</i>. Finally, customize the browser by changing the homepage, adjusting the default search engine, and applying a new theme.</p> <p><b>Activity 02:</b></p>			
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		<p>You are setting up your computer browser for daily use with security, convenience, and productivity in mind. Start by enabling the pop-up blocker, managing cookies, and exploring private browsing mode. Save a login credential using the browser's built-in password manager and test its autofill option. Then, install three extensions: an ad blocker, a productivity tool, and a security add-on, and practice by disabling or removing one of them. To finish, bookmark five important websites, organize them into folders (e.g., <i>Study Resources</i> and <i>News</i>), and ensure they are easy to access for future use.</p>			
<b>LU2.</b> Create email account	<ul style="list-style-type: none"> <li>• Create personal and official mail accounts.</li> <li>• Login and logout mail account.</li> <li>• Perform settings of created mail account.</li> <li>• Backup and restore of mail account. Create a parallel surface at a specified distance from original surface.</li> </ul>	<ul style="list-style-type: none"> <li>• Describe management of emails on various platforms.</li> <li>• Learn to configure email accounts on outlook and differentiate between downloading and uploading data</li> <li>• Understand backup and restore</li> </ul> <p><b>Activity 01</b></p> <ul style="list-style-type: none"> <li>• Configure email account on different platforms</li> </ul>	Theory: 1Hr Practice: 03Hrs. Total: 4Hrs.	<ul style="list-style-type: none"> <li>• Computer System/PC</li> <li>• Web Browsers</li> <li>• Internet connectivity</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

<b>LU3. Send/Receive Emails</b>	<ul style="list-style-type: none"> <li>• Compose Email.</li> <li>• Attach different files with mail.</li> <li>• Send/Receive mails.</li> <li>• Manage Spam mails.</li> <li>• Customize 3D model as per requirements.</li> <li>• Use AI Tools for assistance.</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of attachments and settings in email</li> <li>• Learn the steps to compose email</li> <li>• Learn to use different AI Tools</li> </ul> <p><b>Activity</b> Perform activity on sending receiving email use attachments</p> <ul style="list-style-type: none"> <li>• Download and sign up on any AI tool like chat GPT etc</li> </ul>	<p>Theory: 1 Hr Practice: 03Hrs. Total: 4Hrs.</p>	<ul style="list-style-type: none"> <li>• Computer with internet</li> <li>• Web Browsers</li> <li>• Internet connectivity</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
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## Module 10: 0611ICT1510 Install and configure network connections

**Objective:** This module covers the skills and knowledge required to install and configure computer hardware and networks. The underpinning knowledge regarding computer hardware and networks will be sufficient to provide the basis for the job at workplace.

**Duration:32 Hours**

**Theory: 06 Hours**

**Practical: 26 Hours**

Learning Units	Learning Outcomes	Learning Elements	Duration	Material Required	Learning Place
<b>LU1.</b> Prepare network cables	<ul style="list-style-type: none"> <li>• Select the type of cable as per requirement (CAT5, CAT6, CAT7 etc)</li> <li>• Select UTP/STP as per requirement</li> <li>• Calculate the length of cable as per requirement</li> <li>• Prepare crossover and straight network cable</li> </ul>	<ul style="list-style-type: none"> <li>• Understand different categories of network cables (e.g., CAT5, CAT6, CAT7) and their characteristics.</li> <li>• Learn to use where each type of cable is best suited.</li> <li>• Understand difference between Unshielded Twisted Pair (UTP) and Shielded Twisted Pair (STP) cables.</li> <li>• Understand when to use UTP and STP cables based on network environment and requirements.</li> <li>• Learn the difference between crossover and straight-through cables.</li> <li>• Learn how to prepare each type of cable, including stripping, arranging wires, and crimping connectors.</li> </ul> <p><b>Activity</b> Select, measure, and prepare network cables as</p>	Theory: 3Hrs. Practice:8Hrs. Total: 11Hrs.	<ul style="list-style-type: none"> <li>• Gloves</li> <li>• Networking Cables (CAT5/CAT6 CAT7, Coaxial)</li> <li>• Network Switches</li> <li>• Network Connectors like RJ45 and RJ11</li> <li>• Cable Strippers and Crimping tool</li> <li>• Routers</li> <li>• Cable tester</li> <li>• Wireless Router</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		per the requirements, including creating crossover and straight-through cables.			
<b>LU2.</b> Perform network connectivity	<ul style="list-style-type: none"> <li>• Connect to a wired network using LAN Card/NIC.</li> <li>• Connect to a wireless network using WLAN adapter.</li> <li>• Test the connectivity using Ping and trace route commands.</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of LAN card or Network Interface Card (NIC) is and its role in connecting to a wired network.</li> <li>• Learn how to physically connect a LAN cable to the LAN card/NIC and configure network settings.</li> <li>• Knowledge of WLAN adapter and its role in connecting to a wireless network.</li> <li>• Knowledge of Installing and configuring a WLAN adapter, and connection to a wireless network.</li> <li>• Knowledge of ping command to test connectivity and diagnose network issues.</li> <li>• Knowledge of the trace route command to identify the path and measure the transit delays of packets across the network.</li> </ul> <p><b>Activity</b> Connect to both wired and wireless networks, and test the connectivity using ping and trace route commands to ensure proper network</p>	Theory: 02Hr Practice:10Hrs. Total: 12Hrs.	<ul style="list-style-type: none"> <li>• Gloves</li> <li>• Networking Cables (CAT5/CAT6 CAT7, Coaxial)</li> <li>• Network Switches</li> <li>• Network Connectors like RJ45 and RJ11</li> <li>• Cable Strippers and Crimping tool</li> <li>• Routers</li> <li>• Cable tester</li> <li>• Wireless Router</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		configuration and performance.			
<b>LU3.</b> Perform Basic network troubleshooting	<ul style="list-style-type: none"> <li>• Check the cable connectors with cable tester</li> <li>• Check connectivity between devices (cable and switches/ routers/ hardware components) manually</li> <li>• Repair Cable if required</li> <li>• Replace connectors / hardware components if required</li> <li>• Ping all network nodes to check the connectivity</li> <li>• Check the cable connectivity with each network node</li> <li>• Conduct speed test to check the data rate and bandwidth of network</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of cable tester to check the integrity and connectivity of network cables.</li> <li>• Understand the steps to connect cables to the tester and interpret the results.</li> <li>• Learn how to visually and physically inspect cable connections and hardware components.</li> <li>• Understand how to verify that devices are properly connected and communicating.</li> <li>• Learn to identify damaged or faulty cables.</li> <li>• Understand different techniques to repair cables, such as re-crimping connectors or splicing.</li> <li>• Learn how to Replace faulty or damaged connectors on network cables.</li> <li>• Learn how to Replace hardware components like switches, routers, or NICs.</li> <li>• Knowledge of ping command to test connectivity between network nodes.</li> </ul>	Theory: 01Hr Practice: 08Hrs Total: 09Hrs.	<ul style="list-style-type: none"> <li>• Gloves</li> <li>• Networking Cables (CAT5/CAT6/ CAT7, Coaxial)</li> <li>• Network Switches</li> <li>• Network Connectors like RJ45 and RJ11</li> <li>• Cable Strippers and Crimping tool</li> <li>• Routers</li> <li>• Cable tester</li> <li>• Wireless Router</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<ul style="list-style-type: none"> <li>• Learn how to Interpret the results of the ping command to identify connectivity issues.</li> <li>• Learn how to Verify cable connectivity with each network node (e.g., computers, printers, servers).</li> <li>• Knowledge of tools like network analyzers to check cable connectivity.</li> <li>• Learn about the different tools and websites to conduct speed tests.</li> <li>• Learn how to Interpret the results of speed tests, including data rate and bandwidth.</li> </ul> <p><b>Activity</b> Identify and resolve network connectivity issues by performing basic network troubleshooting steps.</p>			
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## Module 11: 0611ICT1511 Install and Configure Network Devices

**Objective:** This module covers the skills and knowledge required to install and configure IP Addresses, Protocols, hardware / software and networks. The underpinning knowledge regarding networks will be sufficient to provide the basis for the job at workplace.

**Duration: 36 Hours**

**Theory: 09 Hours**

**Practical: 27 Hours**

Learning Units	Learning Outcomes	Learning Elements	Duration	Material Required	Learning Place
<b>LU1.</b> Install and connect network devices	<ul style="list-style-type: none"> <li>Place the network switch/router according to layout</li> <li>Connect the switches and routers with network cables</li> <li>Connect power cord to Network Switches and Routers</li> </ul>	<ul style="list-style-type: none"> <li>Knowledge of different network layouts such as star, ring, bus, and mesh, including their advantages and limitations.</li> <li>Understanding and analysis of network diagrams for device placement and connectivity.</li> <li>Importance of positioning switches and routers in central and accessible locations, considering distance between devices, power availability, and ventilation needs.</li> <li>Awareness of environmental factors such as dust, moisture, and electromagnetic interference in maintaining reliable network performance.</li> <li>Knowledge of Ethernet cables (Cat5e, Cat6, Cat6a), their specifications, and appropriate use cases.</li> </ul>	Theory: 03Hrs Practice: 06Hrs Total: 09Hrs	<ul style="list-style-type: none"> <li>Gloves</li> <li>Laptop / Desktop</li> <li>Network cable with tester</li> <li>Modem</li> <li>Router</li> <li>Switch</li> <li>Tools Kit</li> </ul>	<ul style="list-style-type: none"> <li>Class Room</li> <li>Computer Lab</li> </ul>



		<ul style="list-style-type: none"> <li>• Knowledge of RJ45 connectors, crimping techniques, and ensuring proper cable termination.</li> <li>• Understanding power ratings and requirements of switches and routers, with emphasis on using correct power cords and adapters.</li> <li>• Awareness of safe handling of power cords, proper grounding practices, and prevention of overloaded power outlets to minimize hazards.</li> </ul> <p><b>Activity 1: Design and Set Up the Network</b></p> <p>You are asked to design the network for a small office. Your task is to:</p> <ul style="list-style-type: none"> <li>• Choose a suitable network layout (star, ring, bus, or mesh) and explain why.</li> <li>• Study the given network diagram and decide the best place for switches and routers.</li> <li>• Select the right Ethernet cables (Cat5e, Cat6, or Cat6a) and prepare them using RJ45 connectors.</li> </ul>			
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		<ul style="list-style-type: none"> <li>• Crimp and test the cables to make sure they are working.</li> </ul> <p><b>Activity 2: Install and Check the Network Environment</b></p> <p>After designing the network, set it up safely. You will:</p> <ul style="list-style-type: none"> <li>• Place switches and routers in central, accessible, and ventilated locations.</li> <li>• Ensure the area is free from dust, moisture, and interference.</li> <li>• Check the power ratings of switches and routers and use the correct power cords/adapters.</li> <li>• Safely connect the devices with proper grounding and avoid overloaded outlets.</li> <li>• Confirm that the network is running reliably without performance or safety issues.</li> </ul>			
<b>LU2.</b> Configure IP Addresses of hosts and intermediary devices	<ul style="list-style-type: none"> <li>• Plan IP Addresses class</li> <li>• Assign IP and subnet mask</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of IP address classes (A, B, C, D, E), their ranges, and significance in networking.</li> </ul>	Theory: 03Hrs Practice: 07Hrs Total: 10Hrs	<ul style="list-style-type: none"> <li>• Gloves</li> <li>• Laptop / Desktop</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

	<ul style="list-style-type: none"> <li>• Test the network connectivity through Ping Command</li> </ul>	<ul style="list-style-type: none"> <li>• Understanding the principles of IP address planning and allocation based on network requirements.</li> <li>• Knowledge of subnetting, including designing subnets for efficient address management and determining appropriate subnet masks.</li> <li>• Understanding the process of assigning and configuring IP addresses and subnet masks on hosts and intermediary devices such as routers and switches.</li> <li>• Knowledge of testing network connectivity after configuration using commands like Ping.</li> <li>• Understanding the role of the Ping command in verifying connectivity between devices and troubleshooting common network issues.</li> </ul> <p><b>Activity 01: Plan and Set IP Addresses</b></p> <p>You are given a network diagram of different departments (HR, Finance, IT). Each department has a</p>		<ul style="list-style-type: none"> <li>• Network cable with tester</li> <li>• Modem</li> <li>• Router</li> <li>• Switch</li> <li>• Tools Kit</li> </ul>	
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		<p>different number of computers. Your task is to:</p> <ul style="list-style-type: none"> <li>• Decide which IP address class to use.</li> <li>• Break the network into subnets so IPs are used properly.</li> <li>• Assign IP addresses and subnet masks to all computers, routers, and switches.</li> <li>• Write down your full IP address plan.</li> </ul> <p><b>Activity 2: Test and Fix the Network</b></p> <p>After setting the IP addresses, check if the network works. You will:</p> <ul style="list-style-type: none"> <li>• Use the <b>Ping</b> command to test communication between devices.</li> <li>• Find problems such as wrong IP, subnet mask, or disconnected devices.</li> <li>• Fix the issues and test again until every device can connect properly.</li> </ul>			
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<p><b>LU3.</b> Configure dynamic routing protocols</p>	<ul style="list-style-type: none"> <li>• Configure dynamic routing protocols</li> <li>• Advertise directly connected network IDs</li> <li>• Perform convergence</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of different dynamic routing protocols (RIP, OSPF, EIGRP, BGP) and their purpose.</li> <li>• Understanding the benefits of using dynamic routing over static routing.</li> <li>• Ability to compare routing protocols based on features, scalability, and use cases.</li> <li>• Knowledge of configuration commands and parameters for dynamic routing protocols.</li> <li>• Understanding how to advertise network IDs using routing protocols.</li> <li>• Knowledge of convergence, its importance, and factors affecting convergence time and stability.</li> <li>• Ability to troubleshoot common issues in dynamic routing.</li> </ul> <p><b>Activity 1: Configure and Compare Routing Protocols</b>  You are working as a network engineer for a company that is expanding its branches. Your task is to:</p> <ul style="list-style-type: none"> <li>• Configure two different dynamic routing protocols</li> </ul>	<p>Theory: 02Hr  Practice: 07Hrs  Total: 09Hrs</p>	<ul style="list-style-type: none"> <li>• Gloves</li> <li>• Laptop / Desktop</li> <li>• Network cable with tester</li> <li>• Modem</li> <li>• Router</li> <li>• Switch</li> <li>• Tools Kit</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
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		<p>(e.g., RIP and OSPF) on routers.</p> <ul style="list-style-type: none"> <li>• Advertise the required network IDs using routing commands.</li> <li>• Compare how each protocol shares routing information and handles changes in the network.</li> <li>• Note down which protocol would be more suitable for a large-scale network and why.</li> </ul> <p><b>Activity 2: Test Convergence and Troubleshoot Issues</b> After configuration, ensure following:</p> <ul style="list-style-type: none"> <li>• Test the convergence process by disconnecting and reconnecting network links.</li> <li>• Measure how quickly routing tables update in each protocol.</li> <li>• Identify factors that affect convergence time and stability.</li> <li>• Use troubleshooting methods to fix common problems, such as incorrect network advertisements or missing routes.</li> </ul>			
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		<ul style="list-style-type: none"> <li>• Verify connectivity between devices after convergence using ping and traceroute.</li> </ul>			
<b>LU4.</b> Perform maintenance & troubleshooting	<ul style="list-style-type: none"> <li>• Check the network connectivity using Ping and Traceroute</li> <li>• Rectify duplex and speed mismatch problems</li> <li>• Diagnose common network problems</li> <li>• Identify the exact class of IP addresses assigned to your computer and your network</li> <li>• Troubleshoot WLAN like connectivity with LAN (bridging) and AP settings</li> <li>• Perform IP Scan and take appropriate action</li> </ul>	<ul style="list-style-type: none"> <li>• Importance of regularly checking network connectivity.</li> <li>• Knowledge of ping and traceroute commands for diagnosing connectivity issues.</li> <li>• Understanding of duplex settings (half-duplex vs full-duplex) and their impact on performance.</li> <li>• Knowledge of common network problems (IP conflicts, DNS errors, hardware failures) and how to troubleshoot them systematically.</li> <li>• Knowledge of diagnostic tools (ping, traceroute, IP scanners, etc.) for resolving network issues.</li> <li>• Understanding of IP address classes (A, B, C, D, E) and verifying assigned IPs in different setups.</li> <li>• Knowledge of WLAN (Wireless LAN), its</li> </ul>	Theory: 01Hr Practice:07Hrs Total: 08Hrs	<ul style="list-style-type: none"> <li>• Gloves</li> <li>• Laptop / Desktop</li> <li>• Network cable with tester</li> <li>• Modem</li> <li>• Router</li> <li>• Switch</li> <li>• Tools Kit</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<p>components, and troubleshooting connectivity issues.</p> <ul style="list-style-type: none"> <li>• Understanding of bridging WLAN with LAN and configuring Access Points (APs).</li> <li>• Knowledge of IP scanning tools and techniques to identify devices and ensure network security.</li> </ul> <p><b>Activity 1: Diagnose and Troubleshoot Wired Network Issues</b></p> <p>You are hired as a network support engineer at a company. Some employees complain of slow or no connectivity. Your task is to:</p> <ul style="list-style-type: none"> <li>• Use ping and traceroute commands to check connectivity and trace the path of packets.</li> <li>• Identify and explain the IP address class assigned to your computer and verify it with the network setup.</li> <li>• Check duplex settings (half/full duplex) on switches and devices to see if mismatches are causing slow performance.</li> </ul>			
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		<ul style="list-style-type: none"> <li>• Troubleshoot common issues like IP conflicts, DNS errors, or cable/hardware faults, and document the solutions.</li> </ul> <p><b>Activity 2: Troubleshoot Wireless Network and Perform IP Scanning</b></p> <ul style="list-style-type: none"> <li>• Verify WLAN settings and check if the Access Point (AP) is correctly configured.</li> <li>• Troubleshoot connectivity issues, such as incorrect IP assignments or weak signals.</li> <li>• Bridge WLAN with LAN to allow seamless wired and wireless connectivity.</li> <li>• Perform an IP scan of the network to identify all connected devices, detect unauthorized users, and suggest actions to improve security.</li> <li>• Verify that all legitimate users have proper access after fixing the issues.</li> </ul>			
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## Module 12: 0611ICT1512 Install and Configure Network Utilities Software

**Objective:** This module covers the skills and knowledge required to install analyze, configure, optimize or maintain a PC, operating systems, hardware and networks. The underpinning knowledge regarding application software and system software will be sufficient to provide the basis for the job at workplace.

**Duration: 32Hours**

**Theory: 6Hours**

**Practical:26 Hours**

Learning Units	Learning Outcomes	Learning Elements	Duration	Material Required	Learning Place
<b>LU1.</b> Install and configure Utility software	<ul style="list-style-type: none"> <li>• Download utility software</li> <li>• Install other dependency application /software</li> <li>• Install utility programs to improve functionality</li> <li>• Perform product activation</li> <li>• Update the software versions/patches.</li> </ul>	<ul style="list-style-type: none"> <li>• Learn how to Identify system requirements for the utility software.</li> <li>• Knowledge of verify the authenticity and integrity of the downloaded software.</li> <li>• Run the installed software wizard.</li> <li>• Learn how to select the appropriate installation options based on system requirements.</li> <li>• Learn how to run the installed software.</li> </ul> <p><b>Activity</b> Download a utility software, verify its authenticity, install it using the wizard while selecting options suitable for your system, and then launch the software to ensure it operates correctly.</p>	Theory: 02Hrs Practice:09Hrs. Total: 11Hrs.	<ul style="list-style-type: none"> <li>• Storage Devices</li> <li>• CD Drives</li> <li>• CDs / Flash Drive</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

<b>LU2.</b> Install device drivers	<ul style="list-style-type: none"> <li>• Download device drivers</li> <li>• Install devices drivers</li> </ul>	<ul style="list-style-type: none"> <li>• Understand about the device Compatibility</li> <li>• Learn about the Installation Process and Troubleshooting.</li> </ul> <p><b>Activity</b> Install Device Drivers on a Windows Computer</p>	Theory: 02Hrs Practice: 09Hrs Total: 11Hrs.	<ul style="list-style-type: none"> <li>• Storage Devices</li> <li>• CD Drives</li> <li>• CDs / Flash Drive</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
<b>LU3.</b> Install/update Firmware	<ul style="list-style-type: none"> <li>• Check for firmware update.</li> <li>• Download the firmware</li> <li>• Update the firmware.</li> <li>• Check software is working in proper manner.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the device that requires a firmware update (router, printer, motherboard, or smartphone).</li> <li>• Knowledge of how to verify the current firmware version of the device.</li> <li>• Learn how to find the latest firmware version for your device on the manufacturer's website and download it.</li> <li>• Learn how to backup important data from the device before proceeding with the firmware update</li> </ul> <p><b>Activity</b> Install/Update Firmware on a device</p>	Theory: 02Hrs Practice: 08Hrs Total: 10Hrs.	<ul style="list-style-type: none"> <li>• Storage Devices</li> <li>• CD Drives</li> <li>• CDs / Flash Drive</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

### Module 13: 0611ICT1513 Get Started with C#

**Objective:** This module covers the essential skills and knowledge required to download and install Visual Studio Community Edition from the official website. Upon completion, candidates will be able to explore the Integrated Development Environment (IDE), create projects, and perform basic programming tasks.

**Duration: 16 Hours**

**Theory: 4 Hours**

**Practical: 12 Hours**

Learning Units	Learning Outcomes	Learning Elements	Duration	Material Required	Learning Place
<b>LU1.</b> Install Microsoft Visual Studio	<ul style="list-style-type: none"> <li>• Navigate to Official website and download Visual Studio Community Edition.</li> <li>• Install Visual Studio Community Edition</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of the official Microsoft Visual Studio website.</li> <li>• Understanding of different Visual Studio editions (Community, Professional, Enterprise).</li> <li>• Awareness of the steps required to download Visual Studio Community Edition.</li> <li>• Knowledge of the installation process of Visual Studio Community Edition.</li> <li>• Understanding of basic installation options (workloads, language packs, and components).</li> </ul> <p><b>Activity</b> Download and install Visual Studio Community Edition on your system. Follow the installation steps carefully to ensure a smooth setup.</p>	Theory:1Hr Practice:04Hrs Total: 5Hrs.	<ul style="list-style-type: none"> <li>• Personal Computer/Laptop</li> <li>• Microsoft Windows OS</li> <li>• Microsoft Visual Studio Community Edition (Latest Version)</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
<b>LU2.</b> Utilize Primitive data types and	<ul style="list-style-type: none"> <li>• Create a C# Project under windows in Visual Studio</li> <li>• Write first program in C#</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of different types of projects that can be created in Visual Studio (e.g., Console App, Windows Forms, Web App).</li> </ul>	Theory:2Hr Practice:04Hrs Total: 6Hrs.	<ul style="list-style-type: none"> <li>• Personal Computer/Laptop</li> <li>• Microsoft Windows OS</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

Variables in Practice	<ul style="list-style-type: none"> <li>• Declare different types of variables/constants</li> <li>• Implement different types of operators in C#</li> <li>• Implement different type conversions in C#</li> <li>• Compile and Run Program</li> </ul>	<ul style="list-style-type: none"> <li>• Learn how to create a new project and configure its basic settings, such as project name, storage location, and framework version.</li> <li>• Understand the basic structure of a C# program (namespace, class, Main method).</li> <li>• Knowledge of variables and constants, and how they are declared and used in a C# program.</li> <li>• Knowledge of different types of operators in C# (arithmetic, comparison, logical, assignment, etc.).</li> <li>• Understand the concept of implicit type conversion (automatic conversion, e.g., from int to double).</li> <li>• Knowledge of explicit type conversion (casting, e.g., (int)myDouble).</li> <li>• Learn how to compile, run, and test a simple C# program in Visual Studio.</li> </ul> <p><b>Activity</b> Write a C# program that declares and initializes variables of different data types and constants. The program should perform and display the results of arithmetic, relational, and logical operations.</p>		<ul style="list-style-type: none"> <li>• Microsoft Visual Studio Community Edition (Latest Version)</li> </ul>	
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		Finally, build and run the program to verify the output.			
<b>LU3.</b> Interact with Console for I/O	<ul style="list-style-type: none"> <li>• Implement input statement in C# as per requirement</li> <li>• Implement Output statement in C# as per requirement</li> <li>• Implement different format specifiers in C#</li> <li>• Implement concatenation in output statement</li> </ul>	<ul style="list-style-type: none"> <li>• Understand input and output statements.</li> <li>• Understand the format specifiers.</li> <li>• Knowledge of string concatenation.</li> </ul> <p><b>Activity</b> Write a program that prompts the user to input their first name, last name, and birthdate (in the format yyyy-MM-dd). The program should then output the user's full name using string concatenation and display their age, formatted correctly using format specifiers for numerical output.</p>	Theory:1Hr Practice:04Hrs Total: 5Hrs.	<ul style="list-style-type: none"> <li>• Personal Computer/Laptop</li> <li>• Microsoft Windows OS</li> <li>• Microsoft Visual Studio Community Edition (Latest Version)</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

#### Module 14: 0611ICT1514 Apply Operators & Expressions

**Objective:** This module covers the essential skills and knowledge required to work with basic arithmetic, relational, logical, and ternary operators in C#. It also provides familiarity with implementing various expressions in C#.

**Duration: 32 Hours**

**Theory: 6 Hours**

**Practical: 26 Hours**

Learning Units	Learning Outcomes	Learning Elements	Duration	Material Required	Learning Place
<b>LU1.</b> Utilize Operators in C# program	<ul style="list-style-type: none"> <li>• Perform mathematical operation in C#.</li> <li>• Perform comparison operation in C#.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand arithmetic, relational, logical, and comparison operators, along with basic conditional</li> </ul>	Theory: 03Hrs Practice:15Hrs Total: 18Hrs.	<ul style="list-style-type: none"> <li>• Personal Computer/Laptop</li> <li>• Microsoft Windows OS</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

	<ul style="list-style-type: none"> <li>• Perform logical operation in C#.</li> <li>• Perform ternary operations.</li> </ul>	<p>statements and operator precedence.</p> <p><b>Activity 01</b> Write a program to perform the following mathematical operations: Arithmetic operations Relational operations Logical operations</p>		<ul style="list-style-type: none"> <li>• Microsoft Visual Studio Community Edition (Latest Version)</li> </ul>	
<b>LU2.</b> Use expressions in C#	<ul style="list-style-type: none"> <li>• Implement Interpolated String Expressions</li> <li>• Implement Lambda Expressions</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of string interpolation.</li> <li>• Explore lambda expressions.</li> </ul> <p><b>Activity 01</b> Write a program that prompts the user for their name and age, and then outputs a personalized message using string interpolation.</p> <p><b>Activity 02</b> Write a program that uses a lambda expression to sort a list of integers in ascending order.</p>	Theory: 03Hrs Practice:11Hrs Total: 14Hrs.	<ul style="list-style-type: none"> <li>• Personal Computer/Laptop</li> <li>• Microsoft Windows OS</li> <li>• Microsoft Visual Studio Community Edition (Latest Version)</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

### Module 15: 0611ICT1515 Manage Flow Control using Conditional Statement & Loops

**Objective:** This module covers the skills and knowledge required to implement conditional statements such as if, if-else, and switch statements. It also enables learners to work with different loop structures in C# programs.

**Duration: 32 Hours**

**Theory: 6 Hours**

**Practical: 26 Hours**

Learning Units	Learning Outcomes	Learning Elements	Duration	Material Required	Learning Place
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<b>LU1.</b> Manage Flow control with Conditional Statement	<ul style="list-style-type: none"> <li>• Implement if/if-else and switch statement in C#</li> <li>• Implement nested conditional statement in C#</li> </ul>	<ul style="list-style-type: none"> <li>• Learn about If, if-else, switch, and nested if statements</li> <li>• Knowledge of combining if, else, and else-if statements</li> </ul> <b>Activity</b> Write a program that implements the following: <ul style="list-style-type: none"> <li>• An if-else statement to check a condition (e.g., age for voting).</li> <li>• A switch statement to map user input to corresponding values (e.g., days of the week).</li> <li>• A nested if statement to handle complex conditions (e.g., a grading system based on score).</li> </ul>	Theory: 03Hrs Practice:13Hrs Total: 16Hrs	<ul style="list-style-type: none"> <li>• Personal Computer/Laptop</li> <li>• Microsoft Windows OS</li> <li>• Microsoft Visual Studio Community Edition (Latest Version)</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
<b>LU2.</b> Apply Loop structure	<ul style="list-style-type: none"> <li>• Implement while loop as per requirements.</li> <li>• Implement do-while loop as per requirements</li> <li>• Implement for loop as per requirements.</li> <li>• Implement nested loop in C# program.</li> </ul>	<ul style="list-style-type: none"> <li>• Basic structure of while, do-while, and for loops</li> <li>• Nested loops (for, while, do-while) and loop progression</li> </ul> <b>Activity 01</b> Write a program that prints numbers from 1 to 5 using a while loop, do-while loop, and for loop. <b>Activity 02</b> Write a program using a nested loop to print the multiplication table for numbers 1 to 3.	Theory: 03Hrs Practice:13Hrs Total: 16Hrs	<ul style="list-style-type: none"> <li>• Personal Computer/Laptop</li> <li>• Microsoft Windows OS</li> <li>• Microsoft Visual Studio Community Edition (Latest Version)</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>



## Module 16: 0611ICT1516 Manage Arrays and lists

**Objective:** After this module candidate will be able to utilize arrays and collections in C# programming. Learners cover array initialization, fixed and dynamic lengths, processing with for each loops, and sorting. They also explore non-generic collections like Array List and Hash Table, and generic collections like List and Dictionary, gaining proficiency in element manipulation and iteration.

**Duration: 32 Hours**

**Theory: 06 Hours**

**Practical:26 Hours**

Learning Units	Learning Outcomes	Learning Elements	Duration	Material Required	Learning Place
<b>LU1.</b> Utilizing Arrays in C# program	<ul style="list-style-type: none"> <li>• Declare and Initialize an Array of different types.</li> <li>• Implement an Array with Fixed Length</li> <li>• Implement an Array with Dynamic Length</li> <li>• Accessing an array using loops</li> </ul>	<ul style="list-style-type: none"> <li>• Understand an array to specify its type and size.</li> <li>• Learn how to Initialize an array with values at the time of declaration or later.</li> <li>• Learn how to access array elements using an index to retrieve or modify values.</li> <li>• Learn how to Modify the values of specific array elements.</li> </ul> <p><b>Activity</b> Write a program using 1-D array and apply different operations</p>	Theory: 02Hrs Practice: 12Hrs Total: 14Hrs	<ul style="list-style-type: none"> <li>• Personal Computer/Laptop</li> <li>• Microsoft Windows OS</li> <li>• Microsoft Visual Studio Community Edition (Latest Version)</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
<b>LU2.</b> Utilize non-generic collections in C# program	<ul style="list-style-type: none"> <li>• Implement an Array List in C#.</li> <li>• Adding &amp; removing an element from an Array List.</li> <li>• Process Array List using for each Loop.</li> <li>• Implement Hash Table in C#.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand a non-generic collection and specify its type.</li> <li>• Learn how to add elements to the collection using the Add method.</li> <li>• Learn how to access elements from the collection using an index (for Array List) or methods like Peek,</li> </ul>	Theory: 02Hrs Practice: 08Hrs Total: 10Hrs	<ul style="list-style-type: none"> <li>• Personal Computer/Laptop</li> <li>• Microsoft Windows OS</li> <li>• Microsoft Visual Studio Community Edition (Latest Version)</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

	<ul style="list-style-type: none"> <li>• Adding &amp; removing an element from Hash Table.</li> <li>• Iterate Hash Table using for each loop.</li> </ul>	<p>Dequeue, etc., for other collections.</p> <ul style="list-style-type: none"> <li>• Learn how to remove elements from the collection using the Remove method or other similar methods (e.g., Dequeue Pop()).</li> </ul> <p><b>Activity</b> Write a program and apply the hash table</p>			
<b>LU3.</b> Utilize generic collections in C# program	<ul style="list-style-type: none"> <li>• Implement a List in C#</li> <li>• Adding and removing an element from the list</li> <li>• Process a List using for each Loop</li> <li>• Implement a Dictionary in C#</li> <li>• Adding and removing an element from the dictionary</li> <li>• Iterate a dictionary using for each loop</li> </ul>	<ul style="list-style-type: none"> <li>• Understanding Generic Collections</li> <li>• Learn about the common Generic Collection Types</li> <li>• Learn about the Application of key operation on generic collection (Add, Remove, contains, counts,)</li> </ul> <p><b>Activity</b> Write a program and implement the dictionary</p>	Theory: 02Hrs Practice: 06Hrs Total: 08Hrs	<ul style="list-style-type: none"> <li>• Personal Computer/Laptop</li> <li>• Microsoft Windows OS</li> <li>• Microsoft Visual Studio Community Edition (Latest Version)</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

## Module 17: 0611ICT1517 Implement OOP Basics in C#

**Objective:** After this module the student will be able to create and use different methods in program. He will also be able to implement class concept in program.

**Duration: 32 Hours**

**Theory: 06 Hours**

**Practical: 26 Hours**

Learning Units	Learning Outcomes	Learning Elements	Duration	Material Required	Learning Place
<b>LU1.</b> Implement methods in program	<ul style="list-style-type: none"> <li>• Create methods</li> <li>• Implement methods in C# as per requirements.</li> <li>• Implement methods with different arguments as per requirements.</li> <li>• Implement methods that return a value as per requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of methods in C# and their role in structuring programs.</li> <li>• Learn how to implement methods in C# according to given requirements.</li> <li>• Learn about implementing methods with different types and numbers of arguments to meet requirements.</li> <li>• Learn the concepts of implementing methods that return values, and how returned data is used within a program.</li> </ul> <p><b>Activity</b> Build a Simple Calculator in C#.</p>	Theory:02Hrs. Practice:12Hrs Total: 14Hrs.	<ul style="list-style-type: none"> <li>• Personal Computer/Laptop</li> <li>• Microsoft Windows OS</li> <li>• Microsoft Visual Studio Community Edition (Latest Version)</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
<b>LU2.</b> Implement Class	<ul style="list-style-type: none"> <li>• Create Class</li> <li>• Implement different data members and methods within class.</li> <li>• Create Setter methods in Class</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of how to define and create a class in object-oriented programming.</li> <li>• Understand the role of data members (attributes) and</li> </ul>	Theory:02Hrs. Practice:12Hrs Total: 14Hrs	<ul style="list-style-type: none"> <li>• Personal Computer/Laptop</li> <li>• Microsoft Windows OS</li> <li>• Microsoft Visual Studio Community</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

	<ul style="list-style-type: none"> <li>• Create Getter methods in Class</li> <li>• Create static method within Class</li> <li>• Create Public/Private methods within Class</li> </ul>	<p>methods (functions) within a class.</p> <ul style="list-style-type: none"> <li>• Learn how to implement setter methods to update the values of class data members.</li> <li>• Learn how to implement getter methods to access and retrieve the values of class data members.</li> <li>• Knowledge of static methods, their purpose, and how they differ from instance methods.</li> <li>• Understand the difference between public and private methods in a class, and how they impact encapsulation and data protection.</li> </ul> <p><b>Activity:</b> Create a <code>Book</code> class with private data members (<code>title</code>, <code>author</code>, <code>price</code>), use setter and getter methods to update and display their values, add a static method to show the total number of books created, and demonstrate its use by creating objects in the <code>Main()</code> method.</p>		Edition (Latest Version)	
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<b>LU3.</b> Implement Constructors in a Class	<ul style="list-style-type: none"> <li>• Create default Constructors.</li> <li>• Create default Constructors with argument</li> <li>• Create Parameterized Constructors</li> </ul>	<ul style="list-style-type: none"> <li>• Understand what a default constructor is and how it automatically initializes objects.</li> <li>• Learn how to define and use constructors with arguments to initialize objects during creation.</li> <li>• Understand the role and usage of parameterized constructors for assigning specific values to object attributes.</li> <li>• Compare default and parameterized constructors to see when each should be used.</li> </ul> <p><b>Activity</b>  Create a <code>Student</code> class with a default constructor that sets default values and a parameterized constructor that takes student name and age as arguments, then demonstrate both by creating multiple objects in the <code>Main()</code> method.</p>	Theory:02Hrs. Practice:02Hrs Total: 04Hrs	<ul style="list-style-type: none"> <li>• Personal Computer/Laptop</li> <li>• Microsoft Windows OS</li> <li>• Microsoft Visual Studio Community Edition (Latest Version)</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
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## Module 18: 0611ICT1518 Implement Adobe Illustrator Essentials Tools on Design

**Objective:** This module offers a foundation in Adobe Illustrator, covering basic tools, portrait and landscape illustration, rulers, and clipping masks. It also includes vector and character design, using CC Libraries, logo design with the Golden ratio, crafting stationary designs, and preparing files for web and print. With an emphasis on eco-friendly design practices, it provides trainees with a versatile skill set for the ever-evolving field of graphic design.

**Duration: 48 Hours**

**Theory: 10 Hours**

**Practical: 38 Hours**

Learning Units	Learning Outcomes	Learning Elements	Duration	Material Required	Learning Place
<b>LU1.</b> Download /Install Adobe Illustrator	<ul style="list-style-type: none"> <li>Download Updated Adobe Illustrator</li> <li>Install Adobe Illustrator.</li> </ul>	<ul style="list-style-type: none"> <li>Learn how to access and download the latest version of Adobe Illustrator from the official Adobe website or authorized sources.</li> <li>Understand step-by-step installation process of Adobe Illustrator on a computer system.</li> <li>Learn about the system requirements and compatibility checks needed before installation.</li> </ul> <p><b>Activity</b> Download Adobe Illustrator from the official Adobe website, check system compatibility, and install it successfully on your computer.</p>	Theory: 01Hr Practice:03Hrs Total: 04Hrs	<ul style="list-style-type: none"> <li>Computer</li> <li>Required Software</li> <li>Internet Lab</li> </ul>	<ul style="list-style-type: none"> <li>Class Room</li> <li>Computer Lab</li> </ul>
<b>LU2.</b> Setup of Interface	<ul style="list-style-type: none"> <li>Set interface as per requirement.</li> <li>Apply Relevant Interface as per requirement.</li> </ul>	<ul style="list-style-type: none"> <li>Learn about the different types of user interfaces (command-line, graphical,</li> </ul>	Theory: 01Hr Practice:03Hrs Total: 04Hrs	<ul style="list-style-type: none"> <li>Computer</li> <li>Required Software</li> <li>Internet Lab</li> </ul>	<ul style="list-style-type: none"> <li>Class Room</li> <li>Computer Lab</li> </ul>

		<p>touch, voice, etc.) and their key characteristics.</p> <ul style="list-style-type: none"> <li>• Understand interface requirements and usability standards in relation to user needs.</li> <li>• Learn core interface design principles and how to align them with system functionality.</li> <li>• Gain knowledge of tools, methods, and guidelines for designing and applying suitable interfaces.</li> <li>• Understand when and why to choose a specific type of interface based on system and user requirements.</li> </ul> <p><b>Activity:</b> Analyze a software application and identify the type of user interface it uses, explaining why it is suitable for the users.</p>			
<b>LU3.</b> Use Basic Tools & Properties	<ul style="list-style-type: none"> <li>• Use different kind of selection tools.</li> <li>• Use shapes, stroke, and fill options.</li> <li>• Use pen tool in Adobe Illustrator.</li> <li>• Use the pathfinder tool.</li> <li>• Use the shape builder tool.</li> <li>• Use the eyedropper tool.</li> <li>• Use the align panel.</li> </ul>	<ul style="list-style-type: none"> <li>• Learn to create and modify basic shapes and apply stroke and fill options in Adobe Illustrator.</li> <li>• Gain knowledge of the Pen Tool and its functions for drawing precise paths and curves.</li> <li>•</li> </ul>	<p>Theory: 01Hr Practice:06Hrs Total: 07Hrs</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Required Software</li> <li>• Internet Lab</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

	<ul style="list-style-type: none"> <li>• Use the pencil and paintbrush tools.</li> <li>• Use all essential tools present in toolbox</li> </ul>	<ul style="list-style-type: none"> <li>• Learn the use of the Pathfinder Tool for combining, dividing, and shaping objects.</li> <li>• Understand how the Shape Builder Tool works to merge and edit overlapping shapes.</li> <li>• Learn the applications of the Eyedropper Tool for sampling and applying colors.</li> <li>• Gain knowledge of the Align Panel and its role in arranging and distributing objects.</li> <li>• Learn to use the Pencil and Paintbrush Tools for freehand drawing and creative illustration.</li> <li>• Acquire knowledge of the essential tools in the Illustrator toolbox and their functions.</li> </ul> <p><b>Activity:</b></p> <ul style="list-style-type: none"> <li>• Create a simple vector artwork (e.g., a house, flower, or logo) using at least five different Illustrator tools from the toolbox.</li> </ul>			
<b>LU4.</b> Create Portrait & landscape illustrations	<ul style="list-style-type: none"> <li>• Create portrait and landscape illustrations as per requirement.</li> <li>• Use tools to create custom portraits and landscape illustrations</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the concepts, styles, and techniques used in creating portrait and landscape illustrations.</li> <li>• Learn the principles of color theory and how to apply them effectively in portrait and landscape artworks.</li> <li>• Gain knowledge of different illustration tools, their</li> </ul>	Theory: 01Hr Practice:03Hrs Total: 04Hrs	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Required Software</li> <li>• Internet Lab</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>



		<p>applications, and best practices for producing professional-quality illustrations.</p> <p><b>Activity</b> Create one portrait illustration and one landscape illustration, applying color theory principles and using at least three different illustration tools.</p>			
<b>LU5.</b> Apply Clipping Mask	<ul style="list-style-type: none"> <li>• Use clipping mask techniques on project.</li> <li>• Use different methods of clipping mask.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand clipping mask techniques and their practical applications in design projects.</li> <li>• Learn the different methods of creating and applying clipping masks in Adobe Illustrator.</li> <li>• Explore the purpose and advantages of using clipping masks in design workflows.</li> <li>• Identify when and why to apply specific clipping mask methods for effective results.</li> </ul> <p><b>Activity</b> Design a creative poster that uses at least two different clipping mask methods to combine text and images effectively..</p>	<p>Theory: 01Hr Practice:03Hrs Total: 04Hrs</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Required Software</li> <li>• Internet Lab</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
<b>LU6.</b> Design Vector and character	<ul style="list-style-type: none"> <li>• Trace a vector by using the basic vector concept.</li> <li>• Design a flat character using different tools</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the basic vector concepts and their role in digital illustration.</li> <li>•</li> </ul>	<p>Theory: 01Hr Practice:03Hrs Total: 04Hrs</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Required Software</li> <li>• Internet Lab</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<ul style="list-style-type: none"> <li>• Learn how to trace a vector using manual tracing techniques.</li> <li>• Use the Pen Tool to create accurate paths and shapes.</li> <li>• Apply Shape Tools for building the foundation of a character design.</li> <li>• Learn the fundamentals of flat character design.</li> <li>• Add color and simple details to enhance the character.</li> <li>• Use the Pathfinder Tool to combine and refine shapes for character design.</li> <li>• Refine and polish the final character design for presentation.</li> <li>• Learn how to export and save the character design in suitable formats.</li> </ul> <p><b>Activity:</b> Create a simple flat vector character (e.g., a cartoon person or animal) using pen, shape, and pathfinder tools, then refine, color, and export it as a finished design.</p>			
<b>LU7.</b> Apply functions from CC Libraries	<ul style="list-style-type: none"> <li>• Download assets from CC libraries.</li> <li>• Import assets from CC libraries.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the benefits of using CC Libraries in Illustrator.</li> <li>• Learn how to create and use CC Libraries within projects.</li> </ul>	Theory: 01Hr Practice:02Hr Total: 03Hrs	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Required Software</li> <li>• Internet Lab</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<ul style="list-style-type: none"> <li>• Work with shared libraries to collaborate with others.</li> <li>• Know how to sync CC Libraries across devices.</li> <li>• Learn how to integrate Adobe Stock assets into CC Libraries.</li> <li>• Use CC Libraries for maintaining consistency in design projects.</li> <li>• Understand the process of syncing and saving libraries for safe access.</li> </ul> <p><b>Activity:</b> Create a CC Library, add colors, text styles, and an Adobe Stock image, then sync and share the library with a classmate to use in their design.</p>			
<b>LU8.</b> Design Logo design with Golden ratio	<ul style="list-style-type: none"> <li>• Use tools to design a logo</li> <li>• Design different kind of logos as per requirement.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the principles of logo design and what makes a strong, professional logo.</li> <li>• Learn the golden ratio and its importance in creating visually balanced designs.</li> <li>• Gain knowledge of the key Illustrator tools used for logo creation.</li> <li>• Practice applying the golden ratio when designing logos.</li> <li>• Explore the different types of logos (wordmarks, symbols, combination marks, etc.) and their use of the golden ratio.</li> </ul>	Theory: 01Hr Practice:06Hrs Total: 07Hrs	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Required Software</li> <li>• Internet Lab</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<ul style="list-style-type: none"> <li>• Learn the methods for refining and polishing a logo design.</li> <li>• Understand the techniques for exporting and presenting a logo for professional use</li> </ul> <p><b>Activity</b> Design a simple logo in Adobe Illustrator by applying the golden ratio. Use Illustrator tools to create, refine, and finalize the logo, then export it in different formats (e.g., PNG, SVG, PDF) for presentation.</p>			
<b>LU9.</b> Create Stationary Design	<ul style="list-style-type: none"> <li>• Design stationery elements from using different tools.</li> <li>• Create designs of business cards, brochures, letterheads, flyers, etc...</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the fundamentals of stationery design and its role in branding.</li> <li>• Learn how to set up documents in Adobe Illustrator for stationery projects.</li> <li>• Explore the process and principles of designing business cards.</li> <li>• Gain knowledge of the techniques and standards for designing letterheads.</li> <li>• Learn about layout and design approaches for creating brochures.</li> <li>• Practice creative methods for designing flyers.</li> <li>• Develop knowledge of the Illustrator tools commonly used in stationery design.</li> </ul>	Theory: 1Hr Practice:06Hrs Total: 7Hrs	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Required Software</li> <li>• Internet Lab</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<ul style="list-style-type: none"> <li>• Learn about printing considerations and requirements for producing professional stationery</li> </ul> <p><b>Activity:</b> Create a complete stationery design set in Adobe Illustrator that includes a business card, letterhead, brochure cover, and a flyer. Ensure proper document setup, apply consistent branding, and prepare the designs with correct printing specifications for professional output.</p>			
<b>LU10.</b> Prepare/ Save Files for web and print	<ul style="list-style-type: none"> <li>• Saves the files in different formats.</li> <li>• Export source and vector files.</li> </ul>	<ul style="list-style-type: none"> <li>• Learn about the different file formats and their applications.</li> <li>• Understand the document setup requirements for both web and print.</li> <li>• Learn how to save files in different formats for specific purposes.</li> <li>• Gain knowledge of exporting vector files for various uses.</li> <li>• Learn how to export raster files for different platforms.</li> <li>• Understand how to prepare files correctly for print production.</li> <li>• Learn about preparing files suitably for web usage.</li> </ul>	Theory: 1Hr Practice:03Hrs Total: 4Hrs	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Required Software</li> <li>• Internet Lab</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<b>Activity:</b> <ul style="list-style-type: none"> <li>• Create a sample design in Illustrator, then export it in multiple formats:</li> <li>• A vector file (AI, PDF, SVG) for print and scaling.</li> <li>• A raster file (JPEG, PNG) for web and digital platforms.</li> <li>• Check print settings (bleed, resolution, color mode) and optimize file size for web usage.</li> </ul>			
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## Module 19: 0611ICT1519 Implement Adobe Photoshop Essential Tools on Designs

**Objective:** This module imparts the skills, knowledge, and attitudes needed for an introductory understanding of Adobe Photoshop. It covers workspace concepts, installation, pre-set, brush, and font usage, mixer brush painting, Camera Raw, layer fundamentals, quick fixes, retouching, masks, channels, vector drawing, advanced compositing, GIF editing, infographics, and environmentally-friendly practices in the graphic design field.

**Duration: 48 Hours**

**Theory: 10 Hours**

**Practical: 38 Hours**

Learning Units	Learning Outcomes	Learning Elements	Duration	Material Required	Learning Place
<b>LU1.</b> Interpret Work area concept	<ul style="list-style-type: none"> <li>Identify the user interface in Photoshop.</li> <li>Create an efficient workspace in Adobe Photoshop.</li> <li>Set panels and their panel locations in Photoshop.</li> <li>Import files in Photoshop</li> </ul>	<ul style="list-style-type: none"> <li>Understand the Photoshop User Interface.</li> <li>Gain knowledge of how to create an efficient workspace.</li> <li>Learn how to set panels and organize their locations in Photoshop.</li> <li>Learn how to import files into Photoshop.</li> </ul> <p><b>Activity:</b> Open Photoshop, arrange the panels to create a custom workspace, then import an image file (e.g., JPEG or PNG) and save the workspace with a custom name for future use.</p>	Theory:1Hr Practice:03Hrs Total: 4Hrs	<ul style="list-style-type: none"> <li>Computer</li> <li>Required Software</li> <li>Internet Lab</li> </ul>	<ul style="list-style-type: none"> <li>Class Room</li> <li>Computer Lab</li> </ul>
<b>LU2.</b> Apply Installation and Use of Presets, Brushes & Fonts	<ul style="list-style-type: none"> <li>Use preset.</li> <li>Use brushes</li> <li>Apply typefaces and fonts to your design.</li> <li>Apply new brushes and fonts</li> </ul>	<ul style="list-style-type: none"> <li>Learn how to use presets in Photoshop.</li> <li>Learn how to use brushes in Photoshop.</li> <li>Learn how to apply typefaces and fonts.</li> </ul>	Theory:1Hr Practice:03Hrs Total: 4Hrs	<ul style="list-style-type: none"> <li>Computer</li> <li>Required Software</li> <li>Internet Lab</li> </ul>	<ul style="list-style-type: none"> <li>Class Room</li> <li>Computer Lab</li> </ul>

	<ul style="list-style-type: none"> <li>• Install new Fonts, Presets and brushes to enhance your projects.</li> </ul>	<ul style="list-style-type: none"> <li>• Learn how to apply new brushes and fonts.</li> <li>• Gain knowledge of installing new fonts, presets, and brushes.</li> </ul> <p><b>Activity:</b></p> <ul style="list-style-type: none"> <li>• Open Photoshop and apply a preset (e.g., a photo filter or adjustment preset) to an imported image.</li> <li>• Select the Brush Tool and experiment with different brush styles.</li> <li>• Add text to the same image using different typefaces and fonts.</li> <li>• Download and install a new brush and a new font, then apply them to the design.</li> <li>• Save the project showing both default and newly added assets.</li> </ul>			
<b>LU3.</b> Use Painting with the mixer Brush	<ul style="list-style-type: none"> <li>• Identify the functions of the mixer brush.</li> <li>• Use essential brush.</li> <li>• Identify techniques for mixing colors.</li> <li>• Apply color mixing within a photograph.</li> <li>• Apply the process of painting and mixing colors with brush presets.</li> </ul>	<ul style="list-style-type: none"> <li>• Learn about the Mixer Brush and Brush Settings.</li> <li>• Gain knowledge of different brush types.</li> <li>• Learn about methods of selecting brushes.</li> <li>• Gain knowledge of essential brushes for painting.</li> <li>• Learn about brush presets.</li> <li>•</li> </ul>	Theory:1Hr Practice:06Hrs Total: 7Hrs	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Required Software</li> <li>• Internet Lab</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>



		<ul style="list-style-type: none"> <li>• Gain knowledge of techniques for modifying brush settings.</li> <li>• Learn about blending colors effectively.</li> <li>• Gain knowledge of picking up colors for painting workflows.</li> <li>• Learn about working with wet and dry effects.</li> <li>• Learn about blending over photographs.</li> <li>• Gain knowledge of restoring or enhancing areas with brushes.</li> <li>• Learn about working with different layers in painting.</li> <li>• Learn about using color harmonies in digital artwork.</li> <li>• Gain knowledge of creating and using custom brushes.</li> <li>• Learn about adjusting brush dynamics for various effects.</li> </ul> <p><b>Activity</b></p> <ul style="list-style-type: none"> <li>• Open a blank Photoshop canvas. Select the Mixer Brush Tool and experiment with wet, dry, and blend settings.</li> <li>• Explore different brush types (round, calligraphy, texture brushes, etc.) and select them using the Brush Picker Panel.</li> <li>• Load a Brush Preset, then modify settings such as</li> </ul>			
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		<p>size, hardness, opacity, and flow.</p> <ul style="list-style-type: none"> <li>• Practice blending colors by painting gradients and mixing two colors with the Mixer Brush.</li> <li>• Import a photograph and try blending over it to create a painted effect.</li> <li>• Use layers: one for base colors, one for highlights, and one for shadows.</li> <li>• Apply color harmony rules (analogous or complementary) when painting a simple scene.</li> <li>• Create and save a custom brush with unique dynamics (e.g., scatter, texture, or angle jitter).</li> </ul>			
<b>LU4.</b> Use Working with Camera Raw plugin	<ul style="list-style-type: none"> <li>• Download and install camera raw.</li> <li>• Use advanced color correction resources.</li> <li>• Use different techniques for the camera.</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of downloading and installing Camera Raw.</li> <li>• Knowledge of advanced color correction resources.</li> <li>• Knowledge of different techniques for using the camera.</li> <li>• Knowledge of advanced image enhancements.</li> <li>• Knowledge of applying local adjustments.</li> <li>• Knowledge of working with camera profiles and presets.</li> <li>• Knowledge of saving and exporting images.</li> </ul>	<p>Theory:1Hr Practice:03Hrs Total: 4Hrs</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Required Software</li> <li>• Internet Lab</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<ul style="list-style-type: none"> <li>• Knowledge of integrating Camera Raw with Photoshop.</li> </ul> <p><b>Activity</b></p> <ul style="list-style-type: none"> <li>• Download and install Adobe Camera Raw (if not already installed).</li> <li>• Open a RAW image file in Photoshop, which will automatically launch Camera Raw.</li> <li>• Apply basic color correction using the White Balance and Exposure sliders.</li> <li>• Use the local adjustment tools (Brush, Gradient, Radial filters) to enhance specific areas.</li> <li>• Apply a camera profile (e.g., Adobe Color, Portrait, or Landscape) and try using presets.</li> <li>• Save and export the image in JPEG and TIFF formats.</li> </ul>			
<b>LU5.</b> laydown Layer Basics	<ul style="list-style-type: none"> <li>• Use layers' panel.</li> <li>• Create a well-organized layer structure in Photoshop.</li> <li>• Create a visually appealing design by applying various techniques.</li> <li>• Apply texture overlays to add depth to your designs.</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of the Layers Panel and the concept of Layers.</li> <li>• Knowledge of different types of Layers (image, text, shape, adjustment, etc.).</li> <li>• Knowledge of Layer visibility and how to toggle it.</li> <li>• Knowledge of naming Layers for organization.</li> </ul>	Theory:1Hr Practice:03Hrs Total: 4Hrs	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Required Software</li> <li>• Internet Lab</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<ul style="list-style-type: none"> <li>• Knowledge of grouping Layers for better workflow.</li> <li>• Knowledge of Layer locking and its uses.</li> <li>• Knowledge of Adjustment Layers and their functions.</li> <li>• Knowledge of Layer blending modes.</li> <li>• Knowledge of opacity adjustments.</li> <li>• Knowledge of Layer masks and their applications.</li> <li>• Learn about using gradients in design.</li> <li>• Knowledge of text and font styles.</li> <li>• Knowledge of shape Layers.</li> <li>• Learn about texture overlays.</li> <li>• Knowledge of importing textures.</li> <li>• Learn about blending textures with Layers.</li> <li>• Learn about using Layer masks on textures.</li> </ul> <p><b>Activity</b></p> <ol style="list-style-type: none"> <li>1. Open a new document in <b>Photoshop</b>.</li> <li>2. Create <b>three different Layers</b> (image, text, and shape).</li> <li>3. Practice <b>renaming and organizing</b> the Layers.</li> </ol>			
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		<ol style="list-style-type: none"> <li>4. Group the Layers and apply <b>Layer Locking</b> to one group.</li> <li>5. Add an <b>Adjustment Layer</b> (e.g., Brightness/Contrast).</li> <li>6. Experiment with different <b>Blending Modes</b> (Multiply, Overlay, Screen).</li> <li>7. Adjust the <b>opacity</b> of each Layer to see the effect.</li> <li>8. Apply a <b>Layer Mask</b> to hide or reveal parts of an image.</li> <li>9. Use a <b>gradient fill</b> on a new Layer.</li> <li>10. Add <b>text</b> and modify font styles.</li> <li>11. Create a <b>shape Layer</b> and try blending it with the text.</li> <li>12. Import a <b>texture image</b> and apply it as an overlay.</li> <li>13. Use a <b>Layer Mask</b> on the texture Layer to blend it smoothly with the design.</li> </ol>			
<b>LU6.</b> Apply Quick Fixing and Retouching	<ul style="list-style-type: none"> <li>• Identify snapshot improvement.</li> <li>• Use facial features with liquefy.</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of the Snapshot concept.</li> <li>• Knowledge of Adjustment Layers and their applications.</li> </ul>	Theory:1Hr Practice:03Hrs Total: 4Hrs	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Required Software</li> <li>• Internet Lab</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

	<ul style="list-style-type: none"> <li>• Create a stunning background blur effect.</li> <li>• Create panoramic images by stitching multiple photos.</li> <li>• Apply image cropping and slicing to refine your compositions.</li> <li>• Use content-aware move tool.</li> <li>• Identify perspective adjustment of an image.</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of basic image correction techniques.</li> <li>• Knowledge of automated features to improve workflow efficiency.</li> <li>• Knowledge of the Liquefy Tool and its functions.</li> <li>• Knowledge of Pucker and Bloat functions.</li> <li>• Knowledge of Face-Aware Liquefy for portrait editing.</li> <li>• Knowledge of digital sculpting of facial features.</li> <li>• Knowledge of Gaussian Blur and its effects.</li> <li>• Knowledge of Layer Masking techniques.</li> <li>• Knowledge of creating depth of field in images.</li> <li>• Knowledge of Lens Blur for realistic effects.</li> <li>• Knowledge of refining masks for precision adjustments.</li> <li>• Knowledge of Photomerge for combining multiple photos.</li> <li>• Knowledge of panorama shooting techniques.</li> <li>• Knowledge of using Photomerge to create panoramas.</li> <li>• Knowledge of refining panoramas after merging.</li> <li>• Knowledge of cropping images using the Crop Tool.</li> </ul>			
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		<ul style="list-style-type: none"> <li>• Knowledge of image slicing for web and design purposes.</li> <li>• Knowledge of straightening images effectively.</li> <li>• Knowledge of the Content-Aware Move Tool.</li> <li>• Knowledge of perspective distortion adjustments.</li> <li>• Knowledge of the Free Transform Tool.</li> <li>• Knowledge of Vanishing Point for perspective editing.</li> </ul> <p><b>Activity 01:</b> Use the Liquefy Tool to adjust facial features in a portrait image. Apply Pucker and Bloat, experiment with Face-Aware Liquefy, and practice digital sculpting of facial features while maintaining realism.</p> <p><b>Activity 02:</b> Create a panorama image using Photomerge. Practice merging multiple images, refining the panorama, cropping, straightening, and applying lens blur and depth-of-field effects for a polished final result.</p>			
<b>LU7.</b> Apply Mask and Channels	<ul style="list-style-type: none"> <li>• Apply masks and channels.</li> <li>• Create a quick mask proficiency.</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of Masks and their purpose in image editing.</li> <li>• Knowledge of types of masks used in Photoshop.</li> </ul>	Theory:1Hr Practice:03Hrs Total: 4Hrs	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Required Software</li> <li>• Internet Lab</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

	<ul style="list-style-type: none"> <li>• Create image manipulations using puppet warp and vanishing point.</li> <li>• Create alpha channels to produce shadows.</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of Quick Mask Mode and how it works.</li> <li>• Knowledge of activating and editing Quick Masks.</li> <li>• Knowledge of exiting Quick Mask Mode safely.</li> <li>• Knowledge of the Puppet Warp Tool and its applications.</li> <li>• Knowledge of the Vanishing Point Filter and its uses.</li> <li>• Knowledge of Alpha Channels and their significance.</li> <li>• Knowledge of creating Alpha Channels for effects like shadows.</li> <li>• Knowledge of applying shadows using Alpha Channels.</li> </ul> <p><b>Activity</b> Use Quick Mask Mode to create and edit selections for an image. Apply the Puppet Warp Tool and Vanishing Point Filter to modify image elements, then create Alpha Channels to add realistic shadows to enhance depth and realism.</p>			
<b>LU8.</b> Apply Vector drawing technique	<ul style="list-style-type: none"> <li>• Apply about bitmap images and vector graphics.</li> <li>• Use paths and the pen tool.</li> <li>• Use custom shapes and importing a smart object.</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of Bitmap images vs. Vector graphics and their differences.</li> <li>• Knowledge of Paths and their significance in vector design.</li> </ul>	Theory:1Hr Practice:03Hrs Total: 4 Hrs	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Required Software</li> <li>• Internet Lab</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>



	<ul style="list-style-type: none"> <li>• Identify adding color and depth to a shape using layer styles.</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of the Pen Tool and its functions.</li> <li>• Knowledge of creating straight paths and curved paths.</li> <li>• Knowledge of adding, deleting, and converting anchor points.</li> <li>• Knowledge of the Custom Shapes Tool and available Shape Libraries.</li> <li>• Knowledge of creating and transforming custom shapes.</li> <li>• Knowledge of Smart Objects, their benefits, and usage.</li> <li>• Knowledge of importing Smart Objects into designs.</li> <li>• Knowledge of interaction between vector objects and Smart Objects.</li> </ul> <p><b>Activity</b>  Create a vector illustration using the Pen Tool to draw straight and curved paths. Modify anchor points, design custom shapes from the shape library, and import a Smart Object to integrate and transform it within the artwork while observing its interaction with vector elements.</p>			
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<b>LU9.</b> Apply Advance Compositing	<ul style="list-style-type: none"> <li>• Identify low and high resolution.</li> <li>• Use key concepts like layer arrangement, smart filters, and upscaling.</li> <li>• Paint a layer, add a background, and use the history panel to undo edits</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of low-resolution vs. high-resolution images and their differences.</li> <li>• Knowledge of identifying image resolution in Photoshop.</li> <li>• Knowledge of layer arrangement and its importance in editing workflows.</li> <li>• Knowledge of Smart Filters and their application on layers.</li> <li>• Knowledge of upscaling images and maintaining quality.</li> <li>• Knowledge of painting on layers and adding backgrounds.</li> <li>• Knowledge of the History Panel and its use in managing edits.</li> </ul> <p><b>Activity</b>  Edit an image in Photoshop by arranging layers, applying Smart Filters, painting on a layer, adding a background, and using the History Panel to track and revert changes. Identify the resolution of the image and perform upscaling while preserving quality.</p>	Theory:0.5Hr Practice:03Hrs Total: 3.5Hrs	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Required Software</li> <li>• Internet Lab</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
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<b>LU10.</b> Prepare Gifs	<ul style="list-style-type: none"> <li>• Create video projects and utilize the timeline panel.</li> <li>• Create animations with key frames and apply effects and transitions.</li> <li>• Create audio effects, mute unwanted audio, and render video.</li> <li>• Create GIFs by utilizing the GIF timeline.</li> </ul>	<p><b>Learn about the</b></p> <ul style="list-style-type: none"> <li>• Timeline Panel</li> <li>• Adding Video Clips</li> <li>• Editing Video in Timeline</li> <li>• Adjusting Layers in Timeline</li> <li>• Keyframes</li> <li>• Animating Properties</li> <li>• Effects</li> <li>• Transitions</li> <li>• Audio Editing</li> <li>• Audio Mixer</li> <li>• Muting Unwanted Audio</li> <li>• Adding Audio Effects</li> <li>• Rendering Video</li> <li>• GIF Timeline</li> <li>• Creating GIFs from Video</li> <li>• Editing the GIF</li> <li>• Exporting GIFs</li> </ul> <p><b>Activity</b> Create a short video project in Photoshop by importing video clips, arranging layers in the timeline, adding keyframe animations, applying effects and transitions, editing audio, rendering the final video, and creating a GIF version from the video with proper adjustments and export settings.</p>	Theory:0.5Hr Practice:03Hrs Total: 3.5Hrs	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Required Software</li> <li>• Internet Lab</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
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<b>LU11.</b> Prepare Info graphics	<ul style="list-style-type: none"> <li>• Apply the concept of infographics to communicate visually.</li> <li>• Apply principles of text and image manipulation for design.</li> <li>• Use creative methods to present ideas effectively.</li> </ul>	<p><b>Learn about the</b></p> <ul style="list-style-type: none"> <li>• Infographics and Types of Infographics</li> <li>• Benefits of Infographics</li> <li>• Hierarchy in Design</li> <li>• Text Manipulation</li> <li>• Image Selection</li> <li>• Image Sizing and Cropping</li> <li>• Image Overlay</li> <li>• Visual Metaphors</li> <li>• Iconography</li> <li>• Color Psychology</li> <li>• Consistency in Design</li> <li>• Creative Data Representation</li> </ul> <p><b>Activity:</b> Create an infographic on a chosen topic by organizing content using hierarchy principles, applying appropriate text styles, selecting and editing images, incorporating visual metaphors and icons, choosing suitable colors, and ensuring consistency and creativity in data representation.</p>	Theory:0.5Hr Practice:03Hrs Total: 3.5Hrs	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Required Software</li> <li>• Internet Lab</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
<b>LU12.</b> Prepare files for web and print	<ul style="list-style-type: none"> <li>• Identify file extensions for saving files for web and print.</li> <li>• Export files in different formats using Adobe Photoshop.</li> </ul>	<p><b>Learn about the</b></p> <ul style="list-style-type: none"> <li>• File Extensions for web (JPEG, PNG, GIF, WebP, SVG)</li> <li>• File Extension for print (TIFF, PSD, PDF, EPS, PNG)</li> <li>• Exporting for Web</li> <li>• Exporting for Print</li> </ul>	Theory:0.5Hr Practice:02Hrs Total: 2.5Hrs	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Required Software</li> <li>• Internet Lab</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<b>Activity:</b> Export a given design for both web and print purposes, choosing the appropriate file formats and settings for each medium.			
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## Module 20: 0611ICT1520 Create portfolios on Social Platforms

**Objective:** To empower learners with the essential skills and knowledge required to create professional portfolios on three popular social media platforms: Facebook, Instagram, and LinkedIn. This module aims to guide participants in setting up optimized profiles and effectively showcasing their work, skills, and expertise through well-crafted posts and content, thereby enhancing their online presence and professional brand.

Duration: 40 Hours		Theory: 10 Hours	Practice:30 Hours		
Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU1. Create a Facebook Page</b>	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>• Create a Facebook Page by visiting <a href="http://www.facebook.com">www.facebook.com</a> and following the account creation process.</li> <li>• Fill out essential information, including a profile picture, cover photo, and a brief description of the page's purpose and content.</li> <li>• Manage the Page category and settings for the intended use.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the purpose and benefits of a Facebook Page for businesses and professionals.</li> <li>• Understand the difference between a Facebook profile and a Facebook Page.</li> <li>• Knowledge of key components of a Facebook Page, profile picture, cover photo, description, category, and settings.</li> <li>• Understand the step-by-step process to create a Facebook Page.</li> <li>• Learn to add a profile picture and cover photo.</li> <li>• Learn to write a brief and engaging description of the page's purpose and content.</li> <li>• Knowledge of selecting the appropriate category for the page.</li> <li>• Knowledge to configure settings for intended use, including privacy and messaging options.</li> </ul>	Theory: 01 Hr Practical:04 Hrs Total: 05 Hrs.	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Computer Lab</li> </ul>

<b>LU2.</b> <b>Upload Portfolio Content on Facebook</b>	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>• Post at least 20 relevant jobs, projects, or posts on the Facebook Page in 20 days to avoid spamming.</li> <li>• Manage each post, including engaging visuals, descriptions, and relevant hashtags if applicable.</li> <li>• Use features like tagging and location settings for greater visibility.</li> </ul>	<ul style="list-style-type: none"> <li>• Learn the importance of regular posting without spamming.</li> <li>• Knowledge about the elements of engaging posts: high-quality visuals, compelling descriptions, and relevant hashtags.</li> <li>• Learn about the tagging and location settings for increased visibility.</li> <li>• Knowledge of tagging to mention collaborators or relevant pages.</li> <li>• Learn to add location tags to reach a local audience.</li> <li>• Knowledge of incorporating appropriate hashtags to increase discoverability.</li> </ul> <b>Activity</b> <ul style="list-style-type: none"> <li>• Planning and scheduling 20 posts.</li> <li>• Create engaging visuals and writing effective descriptions.</li> </ul>	Theory: 01 Hr Practical: 04 Hrs Total: 05 Hrs	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Computer Lab</li> </ul>
<b>LU3.</b> <b>Create a Facebook Group</b>	<b>Trainee must be able to:</b> <ul style="list-style-type: none"> <li>• Create a Facebook group by visiting <a href="http://www.facebook.com/groups">www.facebook.com/groups</a> and following the group creation process.</li> <li>• Fill out essential information, including a profile picture, cover photo, and a brief description of the group's purpose and content.</li> <li>• Ensure that the group category and settings are appropriate for the intended use.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the purpose and benefits of creating a group.</li> <li>• Knowledge of groups (public, closed, secret) and their uses.</li> <li>• Understand the importance of setting appropriate categories and settings.</li> <li>• Understand Step-by-step process to set up a group.</li> <li>• Learn to add a profile picture and cover photo for the group.</li> <li>• Learn to write a brief description of the group's purpose and content.</li> <li>• Knowledge of selecting the appropriate category and privacy settings.</li> </ul>	Theory: 01 Hr Practical: 02 Hr Total: 03 Hrs	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

	<ul style="list-style-type: none"> <li>• Add members to the group via invitations and direct additions of friends.</li> </ul>	<ul style="list-style-type: none"> <li>• Learn to invite members via direct additions and sending invitations.</li> <li>• Understand the setting group rules and moderating discussions.</li> </ul>			
<b>LU4. Join already-created Facebook Groups for Freelancers</b>	<p><b>Trainee must be able to:</b></p> <ul style="list-style-type: none"> <li>• Search and join the already created well-known Facebook groups related to freelance services.</li> <li>• Submit your general proposals related to expertise in the group.</li> <li>• Submit proposals to the specific queries placed in the group by some employers.</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of networking opportunities and access to job postings.</li> <li>• Learn about the group etiquette and rules.</li> <li>• Learn how to find well-known and active freelance groups.</li> <li>• Learn to use Facebook search to find relevant groups.</li> <li>• Learn how to join and understand membership questions.</li> <li>• Learn to Introduce yourself and your expertise.</li> <li>• Knowledge of general proposals related to your skills.</li> <li>• Learn how to respond to a specific job queries posted by employers.</li> </ul> <p><b>Activity</b></p> <p>Search for relevant freelance groups on Facebook, join them by answering membership questions, introduce yourself professionally, and practice responding to both general and specific job postings in the group.</p>	<p>Theory: 01 Hr Practical:02 Hrs Total: 03 Hrs</p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>



<b>LU5. Create a Profile on Instagram</b>	<b>Trainee must be able to:</b> <ul style="list-style-type: none"> <li>• Create an Instagram Business or Creator account by downloading the Instagram app and following the account setup process.</li> <li>• Fill out essential information, including a profile picture, bio, and contact details.</li> <li>• Manage the account type as per the type of Business or Creator for added features.</li> </ul>	<ul style="list-style-type: none"> <li>• Learn the benefits of a Business or Creator account.</li> <li>• Understand the features available to Business/Creator accounts (insights, promotions).</li> <li>• Learn the importance of professional profile picture and bio.</li> <li>• Learn to download the Instagram app and creating an account.</li> <li>• Learn about how to choose between Business and Creator account types.</li> <li>• Knowledge of adding a profile picture and writing a complete bio.</li> <li>• Learn to Include contact details and links to other platforms.</li> <li>• Knowledge of navigating settings for additional features.</li> <li>• Learn to connect other social media accounts.</li> </ul> <p><b>Activity:</b> Students will create and set up a professional Instagram account by choosing between a Business or Creator account type. They will download the Instagram app, create an account, and configure a professional profile including a profile picture, complete bio, and relevant contact details. Students will explore and apply available features such as insights and promotions, navigate account settings to customize functionalities, and connect their Instagram account with other social</p>	Theory: 01 Hr Practical: 03 Hrs Total: 04 Hrs	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
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		media platforms to ensure integrated online presence.			
<b>LU6. Upload Portfolio Content on Instagram</b>	<b>Trainee must be able to:</b> <ul style="list-style-type: none"> <li>• Post at least 20 relevant jobs, projects, or posts on the Instagram profile grid in 20 days to avoid spamming.</li> <li>• Manage each post which includes high-quality visuals, compelling captions, and appropriate use of hashtags and location tags.</li> <li>• Utilize Instagram Stories, IGTV, or Reels as needed to showcase a broader range of portfolio content.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the Importance of consistent posting and avoiding spamming.</li> <li>• Learn to craft high-quality visuals and compelling captions.</li> <li>• Understanding hashtags, location tags, Stories, IGTV, and Reels.</li> <li>• Learn to design visuals using photography or graphic tools.</li> <li>• Learn to write engaging captions with appropriate hashtags.</li> <li>• Knowledge of using Stories to showcase behind-the-scenes or updates.</li> <li>• Knowledge of creating IGTV videos or Reels to display portfolio work.</li> <li>• Knowledge of tagging locations and other relevant accounts.</li> </ul> <b>Activity:</b> create an Instagram content plan and publish multiple posts, including images, captions, and hashtags.	Theory: 01 Hr Practical: 04 Hrs Total: 05 Hrs	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>
<b>LU7. Create a LinkedIn Profile, Company Page, and Showcase Page</b>	<b>Trainee must be able to:</b> <ul style="list-style-type: none"> <li>• Create a LinkedIn account by using www.Linkedin.com and following the account creation process.</li> <li>• Fill out the essential information, including profile picture, cover, featured content, experience, projects, qualifications, and skills.</li> </ul>	<ul style="list-style-type: none"> <li>• Learn the benefits of a strong LinkedIn presence.</li> <li>• Knowledge of the difference between personal profiles, company pages, and showcase pages.</li> <li>• Learn the practices for enhancing visibility and credibility.</li> <li>• Understand the Signing up and verifying the account.</li> </ul>	Theory: 01 Hr Practical: 04 Hrs Total: 05 Hrs	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Computer Lab</li> <li>• Classroom</li> </ul>

	<ul style="list-style-type: none"> <li>• Create a LinkedIn Company page and showcase page and fill out the essential information regarding the company.</li> </ul>	<ul style="list-style-type: none"> <li>• Learn to add a professional profile picture and cover image.</li> <li>• Knowledge of Completing sections, experience, education, skills, and endorsements.</li> <li>• Knowledge of creating a page for your business or brand.</li> <li>• Learn to add company details, logos, and descriptions.</li> <li>• Learn how to highlight the specific products, services, or projects.</li> <li>• Learn how to customize with images and tailored content.</li> </ul> <p><b>Activity:</b> Create a professional LinkedIn profile and a company page, completing all sections, adding visuals, and customizing content to reflect a professional presence and showcase a brand effectively.</p>			
<b>LU8. Create LinkedIn Group</b>	<p><b>Trainee must be able to:</b></p> <ul style="list-style-type: none"> <li>• Create a LinkedIn group by using <a href="http://www.Linkedin.com/groups">www.Linkedin.com/groups</a> and following the group creation process.</li> <li>• Fill out the essential information, including profile picture, cover, and featured content and add members to the group via invitations and direct addition.</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge about the purpose and benefits of creating a group on LinkedIn.</li> <li>• Learn the strategies for effective group management and engagement.</li> <li>• Learn Step-by-step process to create a LinkedIn Group.</li> <li>• Learn to add a group profile picture and cover image.</li> <li>• Knowledge of writing a clear description of the group's purpose.</li> <li>• Learn how to invite connections to join the group.</li> </ul>	<p>Theory: 01 Hr Practical: 03 Hrs Total: 04 Hrs</p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<ul style="list-style-type: none"> <li>• Knowledge of the setting group rules and guidelines.</li> <li>• Learn to initiate discussions and moderating content.</li> </ul> <p><b>Activity</b></p> <p>Create a LinkedIn group, complete the profile with images and description, invite members, set rules, and initiate at least two discussion threads, moderating the content for engagement and professionalism.</p>			
<b>LU9. Join LinkedIn Groups for Freelancers</b>	<p><b>Trainee must be able to:</b></p> <ul style="list-style-type: none"> <li>• Search and join well-known LinkedIn groups for freelancers</li> <li>• Engage with the employers by submitting general or specific proposals, as required.</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of using LinkedIn search and filters to find freelancer groups.</li> <li>• Learn about evaluating groups for activity, relevance, and engagement.</li> <li>• Learn about group rules, admission steps, and posting introductions.</li> <li>• Knowledge of monitoring discussions to identify employer needs.</li> <li>• Learn about the tailoring proposals to match requirements.</li> <li>• Learn about highlighting skills, experience, and project plans in proposals.</li> <li>• Knowledge of maintaining professionalism and following group etiquette.</li> </ul> <p><b>Activity:</b></p> <p>Join at least two LinkedIn freelancer groups, monitor discussions for project opportunities, post an introduction, and</p>	<p>Theory: 02 Hrs Practical: 04 Hrs Total: 06 Hrs</p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		draft a tailored proposal highlighting your skills and experience while following group rules and professional etiquette.			
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## Module 21: 0611ICT1521 Create Freelancing Proficiency on Digital Platforms

**Objective:** To equip learners with the essential skills and knowledge required for successful freelancing on digital platforms such as **Fiverr** and **Upwork**. This module aims to enable participants to effectively navigate these platforms, provide high-quality services, and establish a robust online presence, thereby thriving in the gig economy.

**Duration: 24 Hours**

**Theory: 06 Hours**

**Practice: 18 Hours**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU1. Create a Profile on Fiverr and Link social media and Portfolio Pages to the Profile</b>	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>• Create a Fiverr account and complete the profile, including the bio, skills, and experience.</li> <li>• Link the social media pages to the Fiverr profile.</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of Fiverr as a leading freelance marketplace.</li> <li>• Understand the importance of a professional profile in attracting clients.</li> <li>• Knowledge of the key components of a compelling Fiverr profile: bio, skills, and experience.</li> <li>• Understand the benefits of linking social media and portfolio pages to your Fiverr profile.</li> <li>• Learn about the step-by-step account creation process on Fiverr.</li> <li>• Knowledge of completing profile details with accurate and engaging information.</li> <li>• Understand the significance of uploading a professional profile picture and cover image.</li> <li>• Learn about writing a captivating bio that highlights unique selling points.</li> <li>• Knowledge of listing relevant skills and past experiences effectively.</li> </ul>	Theory: 02 Hr Practical: 03 Hrs Total: 05 Hrs	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		<ul style="list-style-type: none"> <li>• Understand how to connect Facebook, Instagram, and LinkedIn profiles to Fiverr.</li> <li>• Knowledge of integrating portfolio pages to showcase previous work.</li> <li>• Understand the need for consistency across all linked platforms.</li> </ul> <p><b>Activity:</b> Create a Fiverr account, complete all profile details including bio, skills, and experience, upload a professional profile picture and cover image, link social media and portfolio pages, and ensure all information is consistent and appealing to potential clients.</p>			
<b>LU2. Create Gigs on Fiverr</b>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Identify the services you want to offer on Fiverr.</li> <li>• Create a Gig for each service, including a clear description, pricing, no. of revisions, and delivery time.</li> <li>• Optimize the Gigs for search engines by using relevant keywords.</li> <li>• Optimize the gig title using the manual method of searching the recommended gigs with the given primary keyword. Use the same title of the top recommended gig as per the primary keyword.</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of market demand and its role in selecting services to offer.</li> <li>• Understand Fiverr's categories and subcategories.</li> <li>• Knowledge of the principles of search engine optimization (SEO) for gig visibility.</li> <li>• Understand the importance of gig titles, descriptions, and keywords.</li> <li>• Knowledge of strategies for competitive pricing and package creation.</li> <li>• Understand the role of social media and online platforms in gig promotion.</li> <li>• Knowledge of how to develop clear and concise gig titles.</li> </ul>	<p>Theory: 01 Hr Practical: 04 Hrs Total: 5 Hrs</p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

	<ul style="list-style-type: none"> <li>• Optimize the gig description and keywords, using the manual method of searching the top 10 recommended gigs against the primary keywords. Apply the keywords used in the top 10 recommendations.</li> <li>• Promote the Gigs on social media and other online platforms.</li> </ul>	<ul style="list-style-type: none"> <li>• Learn about the writing detailed gig descriptions that outline services offered.</li> <li>• Knowledge of setting up pricing tiers, including revisions and delivery times.</li> <li>• Learn about searching for top-performing gigs using primary keywords.</li> <li>• Knowledge of methods for analyzing competitors' gig titles and descriptions.</li> <li>• Learn about how to incorporate relevant keywords into own gigs.</li> <li>• Knowledge of selecting appropriate tags and categories.</li> <li>• Learn about updating gig images and videos for better engagement.</li> <li>• Learn about sharing gigs on personal and professional social media accounts.</li> <li>• Learn about engaging with online communities related to offered services.</li> </ul> <p><b>Activity:</b> Create a Fiverr gig by researching market demand, selecting an appropriate category, crafting a clear title and detailed description with relevant keywords, setting competitive pricing and package tiers, adding images or videos, and promoting the gig on social media</p>			
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		while engaging with related online communities.			
<b>LU3. Create a Profile on Upwork and Link Social Media and Portfolio Pages to the Profile</b>	<b>Trainee must be able to:</b> <ul style="list-style-type: none"> <li>• Create an Upwork account and complete the profile, including the bio, skills, and experience.</li> <li>• Link the social media pages to the Upwork profile.</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of Upwork as a global freelancing platform.</li> <li>• Understanding the differences between Upwork and other freelancing platforms.</li> <li>• Knowledge of the components of a strong Upwork profile, including bio, skills, and experience.</li> <li>• Understanding the importance of social proof and endorsements.</li> <li>• Knowledge of navigating the Upwork sign-up process.</li> <li>• Understanding identity verification requirements on Upwork.</li> <li>• Learning to craft a professional bio tailored to target clients.</li> <li>• Knowledge of listing relevant skills and previous work experiences effectively.</li> <li>• Understanding the importance of uploading a professional profile picture.</li> <li>• Learning to integrate social media profiles (Facebook, Instagram, LinkedIn).</li> <li>• Knowledge of uploading work samples to the portfolio section.</li> <li>• Understanding how to utilize Upwork's portfolio features to highlight expertise.</li> </ul> <b>Activity:</b>	Theory: 01 Hr Practical: 04 Hr Total: 05 Hrs	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room</li> <li>• Computer Lab</li> </ul>

		Create a professional Upwork profile by signing up, completing identity verification, writing a targeted bio, listing relevant skills and experiences, uploading a professional profile picture, integrating social media profiles, and showcasing work samples in the portfolio section to attract potential clients.			
<b>LU4. Create a Project on Upwork</b>	<b>Trainee must be able to:</b> <ul style="list-style-type: none"> <li>Identify the type of project, want to work on.</li> <li>Write a concise project description like a Fiverr gig, including the scope of work, timeline, and budget.</li> </ul>	<ul style="list-style-type: none"> <li>Knowledge of Upwork as a global freelancing platform.</li> <li>Understanding the differences between Upwork and other freelancing platforms.</li> <li>Knowledge of the key components of a strong Upwork profile, including bio, skills, and experience.</li> <li>Understanding the role of social proof and endorsements in building credibility.</li> <li>Knowledge of the Upwork sign-up and identity verification process.</li> <li>Understanding how to craft a professional bio tailored to target clients.</li> <li>Knowledge of listing relevant skills, work experience, and uploading a professional profile picture.</li> <li>Understanding how to showcase work through portfolio features and linked social profiles.</li> </ul>	Theory: 01Hr Practical: 04 Hrs Total: 05 Hrs	<ul style="list-style-type: none"> <li>Computer System</li> <li>Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>Class Room</li> <li>Computer Lab</li> </ul>

		<b>Activity:</b> Create a complete Upwork profile by signing up, completing identity verification, writing a professional bio, listing skills and experience, uploading a profile picture, and showcasing work through portfolio features and linked social media accounts.			
<b>LU5. Create a Proposal to Apply for Jobs</b>	<b>Trainee must be able to:</b> <ul style="list-style-type: none"> <li>Identify the client's needs and requirements for the given job post.</li> <li>Highlight the skills and experience that are relevant to the job posting.</li> <li>Propose a clear and concise plan for completing the project, including a timeline and budget.</li> <li>Proofread the proposal accurately before submitting it.</li> </ul>	<ul style="list-style-type: none"> <li>Knowledge of the key elements of a winning proposal.</li> <li>Understand the client requirements and how to tailor responses.</li> <li>Learning about matching personal skills to job postings.</li> <li>Knowledge of effective ways to showcase relevant past work.</li> <li>Understand how to analyze job posts to identify client needs.</li> <li>Knowledge of writing clear, concise proposals with personalized greetings.</li> <li>Understand the outlining practical project plans, including timelines and budgets.</li> <li>Knowledge of reviewing proposals for grammatical accuracy, professionalism, and clarity.</li> <li>Learning about navigating Upwork's proposal submission system.</li> <li>Understand the managing connects and bidding mechanisms.</li> </ul>	Theory: 01 Hr Practical: 03 Hrs Total: 04 Hrs	<ul style="list-style-type: none"> <li>Computer System</li> <li>Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>Class Room</li> <li>Computer Lab</li> </ul>

		<b>Activity:</b> Draft and submit three personalized Upwork proposals for different job postings, ensuring that each proposal matches client requirements, highlights relevant skills and past work, includes a clear project plan, and is reviewed for clarity, grammar, and professionalism.			
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### Tools, Equipment and Consumables Required

The tools and equipment required are provided below:

Sr.No.	Items	Quantity (for class of 25)
1.	Computer system Core i5 8 <sup>th</sup> gen or above RAM (Min 8GB), SSD (Min 256 GB) including LAN card, mic,	25
2.	Internet Connection	8 Mbps at least
3.	Web Camera for Video Conference	01
4.	Printer (Black & White) A4/Legal Size	01
5.	Flash Drive (Minimum 128GB)	02
6.	Multimedia Projector	01
7.	Projector Screen	01
8.	Router (simulator may be used in case of non-availability of physical router)	01
9.	Networking Switch ( simulator may be used in case of non-availability of physical switch)	01
10.	Cable tester	05
11.	Cable Strippers and Crimping tool	05
12.	Tools Kits	05
13.	Software (Microsoft Windows (Latest Version), Microsoft Office Suite (Latest Version), Inpage, Google Chrome or any other web browser, Microsoft Visual Studio Community Edition (Latest Version), Adobe Illustrator (Latest Version), Adobe Photoshop(Latest Version), Google Analytics	For each user

The consumables required are provided below:

Sr.No.	Items	Quantity
1.	A4 size paper rim	02
2.	Paper cutter	05
3.	Networking Cables (CAT5/ CAT6/CAT7/Coaxial) (at-least 2 meters)	25
4.	Network Connectors like RJ45 and RJ11	2 packets at least
5.	Dusters	01
6.	White Board Markers	1 packet

### Instructional Resources

#### Module 1: maintain computer system

Basic PC Maintenance - YouTube

#### Module 2 Prepare MS Word Document

Microsoft Word Help

#### Module 3 Prepare Spreadsheet

Microsoft Excel Guide

#### Module 4 Create Presentation in MS PowerPoint

Microsoft PowerPoint Help

#### Module 5 Create basic database using MS Access

<https://youtu.be/aQEAslCCfc0?si=swTsbmrbTQsSidwJ>

#### Module 6 Prepare InPage document

<https://youtu.be/xvXiRTOLR94?si=0phJhe13C-y6GNzd>

**Module7 Manage Email using outlook**

Microsoft Outlook Tutorial in Hindi | Every computer operator must learn Outlook - YouTube

**Module8 Create video conference using team**

How To Use Microsoft Teams For Meetings And Video Conference Calls? in Urdu/Hindi

**Module9 Browse internet and Manage Emails**

How to Use Internet, Browser, Gmail?Advance Internet Surfing Tips 2023. Computer Fundamental

**Module10 Install and configure network connections**

Setup, Configure or Troubleshooting of Inter-Network / Networking

**Module11 Install and Configure Network Devices**

"The Complete PC Upgrade and Maintenance Guide" by Mark Minasi

**Module12Install and Configure Network Utilities Software**

<https://www.packtpub.com/>

**Module 13 Get Started with C#**

C# Programming Guide

**Module 14 Apply Operators & Expressions**

C# Operators Guide

Expressions in C#

<https://www.w3schools.com/>

**Module 15 Manage Flow Control using Conditional Statements & Loops**

C# Flow Control

**Module 16 Implement Array structure in C#**

<https://youtu.be/daFdTssjm3w>

<https://www.w3schools.com/>

**Module 17 Implement methods in OOP**

<https://www.w3schools.com/>

**Module 18 Adobe Illustrator Essentials, Tools, and Design**

<https://youtu.be/vd1vRpoWC3M?list=PLW-zSkCnZ-gCq0DjkzY-YapCBek0IA6IR>

**Module 19 Adobe Photoshop Essentials, Tools, and Design**

<https://youtu.be/ZByhs9mDtDg?list=PLW-zSkCnZ-gA5Jn6gZtUa6-aG0OoRZyb6>

**Module 20 Create Portfolios on Social Media Platforms**

[https://www.youtube.com/watch?v=ip\\_GEYNC7jo](https://www.youtube.com/watch?v=ip_GEYNC7jo)

**Module 21 Create Freelancing Proficiency on Digital Platforms**

<https://www.youtube.com/watch?v=cwmHQCj0IIQ>

## Members of Curriculum Development Committee

The following members participated in the curriculum development process:

S. No	Name	Organization
1.	Mr. Ehsan Ul Haq	IT Expert GPI Mansehra
2.	Ms. Seema Gul	Lecturer GPI Women Hayatabad
3.	Mr. Rizwan Ahmad	Lecturer GPI Chakdara
4.	Mr. Nadeem Ullah Khan	Lecturer GCT D I Khan KP-TEVTA
5.	Mr. Atif Bashir	Adjunct faculty member NCBA&E and superior university, ERP Consultant GNS Solutions
6.	Mr. Mubeen Akbar Janjua	Assistant Director, Pakistan Software Export Board, Islamabad
7.	Mr. Kashif Bashir	Manager Trainings KICS, UET Lahore
8.	Mr. Zeshan Iqbal Bela	CEO, EZ Solutions
9.	Mr. Sabah-Ud-Din	Founder Amal IT Solutions
10.	Mr. Muzammil Hasan	Principal Manager, KICS UET Lahore
11.	Ms. Sadia Saeed	Graphic Designer, Lahore
12.	Mr. Irshad Ali	Unity Game Developer, Mindravel Interactive Lahore
13.	Mr. Muhammad Qasim	Microsoft Educator, Cisco CCNA Enterprise, CCNP Enterprise CORVIT
14.	Ms. Humaira Saeed	Instructor VTI, Muzaffargarh
15.	Mr. Mubashir Chishtee	CEO, Coding Phoenix Lahore
16.	Ms. Sadia Zafar	Instructor GIIT Rawalpindi
17.	Ms. Uzma Noreen	Instructor GTTI, Mandi Baha Uddin
18.	Mr. Muhammad Abdullah	Co-Founder Coding Phoenix Lahore
19.	Mr. Muhib ul Aziz	Web Developer and Digital Marketer, EZ Solutions
20.	Ms. Qudsia Saleem	Chief Instructor IT GSTC, Lahore
21.	Syeda Farah Rehman	Sr. Instructor, GTTI GULBERG LAHORE
22.	Ms Ayesha Iqbal	Instructor GCT AIT Lahore
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24.	Mr. Sohail Tariq	Web Developer & Python Expert, Faisalabad
25.	Muhammad Hamas Javeed	Full stack developer Buggbear Lahore



26.	Mr. Shehreyar Khan Marwat	DACUM Expert /Lecturer GATTC Peshawar
27.	Mr. Syed Shadab Ali Shah	DACUM Expert Assistant Professor GPI Karak
28.	Mr. Imtiaz Ahmed Sial	NAVTTTC Coordinator
29.	Mr. Muhammad Hamza Nadeem	NAVTTTC Coordinator
30.	Sabeel Asghar Kiani	Qualification Advisor GIZ
<b>Curriculum Review &amp; Development Committee</b>		
1.	Mr. Atif Bashir	Adjunct faculty member NCBA&E and superior university, ERP Consultant GNS Solutions
2.	Mr. Muzammil Hassan	Manager Research KICS UET Lahore
3.	Ms. Samreen Umair	Instructor (IT) GTTI GujjarPura Lahore.
4.	Ms. Sajida Noreen	Instructor (IT) GVTI RSLN Lahore.
5.	Ms. Sadia Hamid	Instructor (IT) GVTI ABAD Jampur.