



## ***National Vocational Certificate Level 2 for Mobile App, Web and Game Development***



## **National Vocational Certificate Level 2 for Mobile App, Web and Game Development**

### **“Computer Assistant”**



**National Vocational and Technical Training Commission (NAVTTTC),**

**Government of Pakistan**



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### **ACKNOWLEDGEMENTS**

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 the trade of **Mobile App, Web and Game Development**. This work would not have been possible without the technical support of the above personnel.

NAVTTTC initiated development of CBT&A based qualifications for 200 traditional / hi-tech trades under the Prime **Minister's Hunarmand Pakistan Program**, focusing on Development & Standardization of 200 Technical & Vocational Education & Training (TVET) Qualifications. NAVTTTC efforts have received full support from the Ministry of Federal Education and Professional Training which highly facilitated progress under this initiative.

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 skill 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. NAVTTTC 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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## ***National Vocational Certificate Level 2 for Mobile App, Web and Game Development***



### **Introduction**

#### **a. Definition/Description of Training Program Mobile App, Web and Game Development**

The importance of modern gadgets in our everyday life and activities is undeniably unending. This is so because there is ongoing tremendous transformation in which mobile phones, laptops and other devices are no longer the ordinary device they used to be. They have become the colossal point of attention for individuals and businesses alike, courtesy of the various incredible features and opportunities that they offer. The cumulative progress of technology, the availability and access to high speed internet and the remarkable communicative interface in these devices results into a whole level of new and innovative experience.

Web designing is the computer field which deals with the creation of websites and web application. The person who deals with the creation of websites and web application is known as a web designer or web developer. The best part of being a web developer is that they are employed by almost every organization and they can even work independently as a freelancer.

Mobile phones and devices have become such a ubiquitous part of our everyday lives that it's difficult to imagine going through an entire day without one. This shift to ubiquity has been driven largely in part by the increasing scope of mobile application development. Over just the past few years an explosion in not just the scope but also the depth of utility of these devices has occurred which rivals, if not exceeds that seen in any other discrete class of technology.

Game Development is the art of creating games and describes the design, development and release of a game. It may involve concept generation, design, build, test and release. While you create a game, it is important to think about the game mechanics, rewards, player engagement and level design.



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### **b. Purpose of the Training Program**

Being conscious of the emerging trends in the market, National Vocational & Technical Training Commission (NAVTTTC) has developed competency standards in consultation with the stakeholders including academia, researchers, industry, chambers and TEVTAs for 'Mobile App, Web & Game Development' under National Vocational Qualifications Framework (NVQF). The competency standards document has been designed in a way that trainees can develop skill in the ability to explore and analyze writing in technical, scholarly and professional contexts. They can consolidate their knowledge and skills through advanced practice in writing, editing, designing and producing texts for professional and technical purposes, with concrete application on industry sourced documents and projects.

### **c. Objectives of Training Program**

**The main objectives of the National Vocational Certificate Level 2 for Mobile App, Web and Game Development are as follows:**

- Empower the youth with globally required employable skills.
- Produce competitive Web, Mobile App and Game Developers.
- Produce a skilled youth for Mobile App, Web & Game Development Industry.
- Improve the quality and effectiveness of the training and assessment for Mobile App, Web & Game Development Industry.

### **d. Competencies to be gained after completion of course**

At the end of the course, the trainee has attained the following core competencies:

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- 1) Use system software
- 2) Use application software
- 3) Configure hardware components/peripheral devices
- 4) Draft office documents
- 5) Perform efficient web browsing and manage emails
- 6) Troubleshoot network problems
- 7) Build a Webpage
- 8) Work with stylesheets
- 9) Add bootstrap to incorporate responsiveness
- 10) Test responsiveness of webpage
- 11) Debug the HTML and CSS code
- 12) Identify your niche
- 13) Create BLOG
- 14) Generate, research, and pitch ideas for posts
- 15) Develop methods to attract new and existing readers
- 16) Maintain personal health while using digital devices
- 17) Work safely in an office environment
- 18) Explore Graphic designing tools
- 19) Install Graphic designing tools.
- 20) Design mockups for web pages
- 21) Design mockups for Mobile applications



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- 22) Design mockups for game applications
- 23) Perform Image Slicing
- 24) Carry out branding campaign

### e. Possible job opportunities, available immediately and later in the future:

#### Possible Career Paths

- Computer Assistant
- Blogger
- Graphic Designer

### f. Trainee Entry Level

The entry requirement for National Vocational Certificate Level 2 for Mobile App, Web and Game Development is given below:

Title	Entry requirements
National Vocational Certificate Level 2 for Mobile App, Web and Game Development	Entry for assessment for this qualification is open. However, entry into formal training institutes, based on this qualification is; candidate having <b>Middle</b> Certificate.



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### **g. Minimum Qualification of Trainer/Instructor:**

A. BSCS/BSSE/BSIT/equivalent qualification, having expertise in Web and Mobile Application

**OR**

B. National Vocational Certificate Level 5 for Mobile App, Web and Game Development “Full Stack Developer” with at least one year experience in relevant trade (Jr. Instructor)

### **h. Recommended Trainer: Trainee Ratio**

The recommended maximum trainer: trainee ratio for this program is 1 trainer for 25 trainees.

### **i. Medium of Instruction i.e. Language of Instruction:**

Medium of instruction will be in Urdu / English / Local language

### **j. Duration of the course (Total time, Theory & Practical time):**

The distribution of contact hours is given below:

<b>Total</b>	-	<b>620 hours</b>
<b>Theory</b>	-	<b>128hours (22.6%)</b>
<b>Practical</b>	-	<b>492 hours (79.4%)</b>

### **k. Sequence of Modules**

- 1) Use system software
- 2) Use application software



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- 3) Configure hardware components/peripheral devices
- 4) Draft office documents
- 5) Perform efficient web browsing and manage emails
- 6) Troubleshoot network problems
- 7) Build a Webpage
- 8) Work with stylesheets
- 9) Add bootstrap to incorporate responsiveness
- 10) Test responsiveness of webpage
- 11) Debug the HTML and CSS code
- 12) Identify your niche
- 13) Create BLOG
- 14) Generate, research, and pitch ideas for posts
- 15) Develop methods to attract new and existing readers
- 16) Maintain personal health while using digital devices
- 17) Work safely in an office environment
- 18) Explore Graphic designing tools
- 19) Install Graphic designing tools.
- 20) Design mockups for web pages
- 21) Design mockups for Mobile applications
- 22) Design mockups for game applications
- 23) Perform Image Slicing



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24) Carry out branding campaign



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### Computer Assistant

#### Module: 0613-S&AD&A-1. Use system software

**Objective:** After the completion of this module, the Trainee will be able to develop skill and competence required to use system software.

**Duration:** 30 Hours

**Theory:** 06 Hours

**Practice:** 24 Hours

**Credit Hours:** 03

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU1.</b> Install system Software	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Check drive for previous OS installation.</li> <li>Create drive backup (if required)</li> <li>Format hard drive on system</li> <li>Ensure Hard drive is empty after formatting.</li> </ul>	<u><b>Knowledge Based Questions</b></u> <ul style="list-style-type: none"> <li>Define operating system</li> <li>Describe types of system software</li> <li>Difference between CLI and GUI Operating Systems</li> <li>Types of System Errors</li> </ul>	<b>Theory-</b> 02 Hours <b>Practical-</b> 09 Hours <b>Total-</b> 11 Hours	<ul style="list-style-type: none"> <li>Operating System (Windows, Linux)</li> <li>Computer</li> <li>Bootable Flash Drive</li> </ul>	Class Room Computer Lab



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	<ul style="list-style-type: none"> <li>• Install operating system in the system by following instructional manual.</li> <li>• Troubleshoot installation errors</li> </ul>	<p><b><u>Practical Activity:</u></b></p> <p>Install system software as per instruction</p>			
<p><b>LU2.</b></p> <p>Update /upgrade System Software</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Schedule operating system update</li> <li>• Run operating system update using internet</li> <li>• Download and run windows/application patches</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Differentiate between system update and system upgrade</li> <li>• Describe the benefits of keeping system updated</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Perform system update process</p>	<p><b>Theory-</b> 02 Hours</p> <p><b>Practical-</b> 06 Hours</p> <p><b>Total-</b> 08 Hours</p>	<ul style="list-style-type: none"> <li>• Operating System (Windows, Linux)</li> <li>• Internet Connection</li> <li>• Computer</li> <li>• Bootable Flash Drive</li> </ul>	<p>Class Room</p> <p>Computer Lab</p>



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<p><b>LU3.</b></p> <p><b>Use OS</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Explore desktop environment</li> <li>• Create folders/directories</li> <li>• Open folders/directories and view files in desired format</li> <li>• Copy files, folder/ directories to different location (Hard drive, external storage, cloud)</li> <li>• Move files, folder/ directories to different location (Hard drive, external storage, cloud)</li> <li>• Rename files and directories/folder</li> <li>• Search files / folder/directories against</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Definition of root folder/OS directory</li> <li>• Describe file system (FAT, NTFS)</li> <li>• Define files/folder search criteria</li> <li>• Differentiate between online and offline storage</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>• Create, rename folder and create a sub folder</li> <li>• Run Task Manager and check the consumption of RAM and CPU</li> </ul>	<p><b>Theory- 02 Hours</b></p> <p><b>Practical- 09 Hours</b></p> <p><b>Total- 11 Hours</b></p>	<ul style="list-style-type: none"> <li>• Operating System (Windows, Linux)</li> <li>• Internet Connection</li> <li>• Computer</li> </ul>	<p>Class Room</p> <p>Computer Lab</p>
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	<p>various search criterion (File name, date, text etc.)</p> <ul style="list-style-type: none"><li>• Explore task Manager to view running process/tasks</li><li>• Configure desktop settings</li></ul>				
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### Module: 0613-S&AD&A-2. Use Application Software

**Objective:** After the completion of this module, the Trainee will be able to develop skill and competence required to use application software.

**Duration: 30 Hours**

**Theory: 06 Hours**

**Practice: 24 Hours**

**Credit Hours: 03**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU1.</b>  Install application Software	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Install application software in the PC/computers by following instructional manual.</li> <li>Troubleshoot installation errors</li> </ul>	<u><b>Knowledge Based Questions</b></u> <ul style="list-style-type: none"> <li>Definition of Application Software</li> <li>Types of Application S/W</li> <li>Difference between utility software and system software</li> </ul> <u><b>Practical Activity:</b></u>  Install Word Processing Software	  <b>Theory- 02 Hours</b>  <b>Practical- 06 Hours</b>  <b>Total- 08 Hours</b>	<ul style="list-style-type: none"> <li>Computer</li> <li>Application Software</li> <li>Internet Connection</li> </ul>	Class Room  Computer Lab



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<p><b>LU2.</b></p> <p>Update application Software</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Check for the update</li> <li>• Update/upgrade application software</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Description on how to check for system updates</li> <li>• Importance of installing updates for application software</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Update application software</p>	<p><b>Theory-</b> 01 Hours</p> <p><b>Practical-</b> 03 Hours</p> <p><b>Total-</b> 04 Hours</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Application Software</li> <li>• Internet Connection</li> </ul>	<p>Class Room</p> <p>Computer Lab</p>
<p><b>LU3.</b></p> <p>Install/Upgrade antivirus software</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Select appropriate antivirus software</li> <li>• Install antivirus software</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define antivirus</li> <li>• Description of possible harm/threats if antivirus software not being deployed</li> </ul>	<p><b>Theory-</b> 01 Hours</p> <p><b>Practical-</b> 06 Hours</p> <p><b>Total-</b> 07 Hours</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Antivirus Software</li> </ul>	<p>Class Room</p> <p>/Computer Lab</p>



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	<ul style="list-style-type: none"> <li>Update antivirus database/repository</li> <li>Update/upgrade antivirus software.</li> <li>Schedule antivirus software update</li> </ul>	<p><b><u>Practical Activity:</u></b></p> <p>Install Antivirus Software</p>		<ul style="list-style-type: none"> <li>Internet Connection</li> </ul>	
<p><b>LU 4.</b></p> <p>Perform virus Scan</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Perform complete virus scan on any infected system.</li> <li>Delete / quarantine all the viruses successfully which are detected as a result of scan.</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>Define the term computer virus</li> <li>Define necessity of scanning process of infected Computer</li> <li>Enlist the types of virus scan (Full/Custom etc.)</li> <li>Describe the process of cleaning the harmful files from your system</li> </ul> <p><b><u>Practical Activity:</u></b></p>	<p><b>Theory-</b> 01 Hours</p> <p><b>Practical-</b> 06 Hours</p> <p><b>Total-</b> 07 Hours</p>	<ul style="list-style-type: none"> <li>Computer</li> <li>Antivirus Software</li> <li>Internet Connection</li> </ul>	<p>Class Room /Computer Lab</p>



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		Perform virus scan on system			
<p><b>LU 5.</b></p> <p>Un-install application software</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Remove the application program</li> <li>Make sure that the action is done from control panel.</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>Purpose of performing un-installation</li> <li>Enlist steps to be taken to un-install an application software</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Un-install given application software</p>	<p><b>Theory-</b> 01 Hours</p> <p><b>Practical-</b> 03 Hours</p> <p><b>Total-</b> 04 Hours</p>	<ul style="list-style-type: none"> <li>Computer</li> <li>Installed application Software</li> </ul>	<p>Class Room</p> <p>/Computer Lab</p>



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### Module: 0613-S&AD&A-3. Configure hardware components/peripheral devices

**Objective:** After the completion of this module, the Trainee will be able to develop skill and competence required to configure hardware components/peripheral devices

**Duration:** 30 Hours

**Theory:** 06 Hours

**Practice:** 24 Hours

**Credit Hours:** 03

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<p><b>LU1.</b></p> <p>Establish safe work practices</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Follow relevant legal requirements and OHS standards to the installation and maintenance of computer hardware</li> <li>Apply requirements specified by hardware manufacturers</li> <li>Follow safe work practices, taking into</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>Define the term OHS</li> <li>Elaborate the importance of safety standards</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>State any two OHS standards while working in computer lab</p>	<p><b>Theory-</b> 1.5Hours</p> <p><b>Practical-</b> 06 Hours</p> <p><b>Total-</b> 7.5 Hours</p>	<ul style="list-style-type: none"> <li>OHS Manuals</li> <li>Secured Electricity points/Socket</li> <li>Standard accessories and equipment</li> </ul>	<p>Class Room</p> <p>/Computer Lab</p>



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	<p>account legal and manufacturer requirements</p> <ul style="list-style-type: none"> <li>Use appropriate accessories and tools.</li> </ul>				
<p><b>LU2.</b></p> <p>Install/configure Hardware components/peripheral devices</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Identify the Hardware components / peripheral devices</li> <li>Install appropriate drivers.</li> <li>Configure hardware components / peripheral devices as per instructions manual</li> <li>Take functional test for the installed Hardware components / peripheral devices.</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>Define the term computer peripherals</li> <li>Describe system-hardware configuration and compatibility</li> <li>Enlist main peripheral devices attached with computer</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Install printer and take a test print.</p>	<p><b>Theory-</b> 1.5 Hours</p> <p><b>Practical-</b> 06 Hours</p> <p><b>Total-</b> 7.5 Hours</p>	<ul style="list-style-type: none"> <li>Computer System</li> <li>Internet Connection</li> <li>Monitor/Display</li> <li>Printer</li> <li>Scanner</li> <li>Web cam (digital camera)</li> <li>Portable storage device</li> <li>External Hard disks</li> <li>Network Card</li> <li>Operating System (Windows, Linux)</li> </ul>	<p>Class Room</p> <p>/Computer Lab</p>



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<p><b>LU3.</b></p> <p>Update/Upgrade device driver</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Scan computer for hardware changes.</li> <li>• Update/upgrade device driver</li> <li>• Make sure that updated features are in accordance with the specifications / requirements.</li> <li>• Take functional test for the Hardware components/ peripheral device.</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Describe the need of device drivers</li> <li>• Importance of keeping device drivers updated</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Remove/Update driver for installed device</p>	<p><b>Theory-</b> 1.5 Hours</p> <p><b>Practical-</b> 06 Hours</p> <p><b>Total-</b> 7.5 Hours</p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Monitor/Display</li> <li>• Printer</li> <li>• Scanner</li> <li>• Web cam (digital camera)</li> <li>• Portable storage device</li> <li>• External Hard disks</li> <li>• Network Card</li> </ul>	<p>Class Room /Computer Lab</p>
<p><b>LU 4.</b></p> <p>Troubleshoot basic hardware errors/faults</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Detect hardware errors/problems.</li> <li>• Identify solution of hardware errors.</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define troubleshooting</li> <li>• Describe hardware errors</li> <li>• Explain fault tracing</li> </ul>	<p><b>Theory-</b> 1.5 Hours</p> <p><b>Practical-</b> 06</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet Connection</li> <li>• Printer</li> <li>• Scanner</li> <li>• Modem</li> </ul>	<p>Class Room /Computer Lab</p>



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	<ul style="list-style-type: none"><li>Execute the hardware troubleshooting.</li><li>Verify that the hardware is functioning properly.</li></ul>	<p><b><u>Practical Activity:</u></b></p> <p>Check the print queue of attached printer</p>	<p>Hou rs</p> <p><b>Total-</b> 7.5 Hou rs</p>	<ul style="list-style-type: none"><li>Operating System (Windows, Linux)</li></ul>	
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### Module: 0613-S&AD&A-4. Draft office documents

**Objective:** After the completion of this module, the Trainee will be able to develop skill and competence required to draft/prepare office documents.

**Duration:** 38 Hours

**Theory:** 08 Hours

**Practice:** 30 Hours

**Credit Hours:** 3.8

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU1.</b>  Prepare Word Document	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Select appropriate word processing application</li> <li>Create new document / open already existing word document</li> <li>Set page Layout</li> <li>Perform basic Formatting (text, paragraph, page)</li> </ul>	<u><b>Knowledge Based Questions</b></u> <ul style="list-style-type: none"> <li>Enlist word processing software/applications</li> <li>Describe ribbon in MS Word</li> <li>Types of page settings</li> <li>Importance/need of templates</li> </ul>	<b>Theory-</b> 02 Hours  <b>Practical-</b> 06 Hours  <b>Total-</b> 08 Hours	<ul style="list-style-type: none"> <li>Computer</li> <li>Internet Connection</li> <li>Professional Office Suite (MS Office) )/ Compatible office suite as per Operating System</li> </ul>	Class Room  /Computer Lab



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	<ul style="list-style-type: none"> <li>• Perform insert operation (picture, shapes, charts, tables, smart art, clip art, hyperlinks, page numbers, header/footers, bullets/numbering, columns) in the word document</li> <li>• Check the spellings in the word file through available dictionary</li> <li>• Save document</li> <li>• Print document</li> </ul>	<p><b><u>Practical Activity:</u></b></p> <p>Design and print a letter head for your organisation</p>		<ul style="list-style-type: none"> <li>• Printer</li> </ul>	
<p><b>LU2.</b></p> <p>Prepare Spreadsheet</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Explore and select appropriate spreadsheet application</li> <li>• Create / open Spread Sheet</li> <li>• Set page Layout</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Concept of table, column and rows</li> <li>• Difference between workbook and worksheet</li> <li>• Difference between function and formula</li> </ul>	<p><b>Theory-</b> 02 Hours</p> <p><b>Practical-</b> 06 Hours</p> <p><b>Total-</b> 08 Hours</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet Connection</li> <li>• Printer</li> <li>• Professional Office Suite (MS Office) )/</li> </ul>	<p>Class Room /Computer Lab</p>



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



	<ul style="list-style-type: none"> <li>• Perform basic Formatting</li> <li>• Perform insert operation (picture, charts, smart art, clip art, hyperlinks, page numbers, header/footers, bullets / numbering) in the spread sheet</li> <li>• Insert / use arithmetic functions/formulas</li> <li>• Save Spreadsheet</li> <li>• Print Spreadsheet</li> </ul>	<ul style="list-style-type: none"> <li>• Describe the use of Charts</li> </ul> <p><b><u>Practical Activity:</u></b> Apply If function on the given data</p>		Compatible office suite as per Operating System	
<p><b>LU3.</b></p> <p>Prepare presentation</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Select appropriate presentation tool.</li> <li>• Create / open presentation</li> <li>• Set page Layout</li> <li>• Perform basic Formatting</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define theme</li> <li>• Define purpose behind preparing presentation</li> <li>• Describe features of Slide Master</li> </ul> <p><b><u>Practical Activity:</u></b></p>	<p><b>Theory-</b> 01 Hours</p> <p><b>Practical-</b> 06 Hours</p> <p><b>Total-</b> 07 Hours</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet Connection</li> <li>• Printer</li> <li>• Professional Office Suite (MS Office) )/ Compatible</li> </ul>	Class Room /Computer Lab



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



	<ul style="list-style-type: none"> <li>• Perform insert operation (slides, picture, shapes, charts, tables, smart art, clip art, hyperlinks, page numbers, bullets/numbering) in the presentation.</li> <li>• Select various template designs</li> <li>• Apply animation to slides</li> <li>• Check the spellings</li> <li>• Run the presentation</li> <li>• Save the presentation</li> <li>• Print the presentation</li> </ul>	<p>Prepare an animated presentation on the assigned topics</p>		<p>office suite as per Operating System</p>	
<p><b>LU 4.</b></p> <p>Prepare In-page files</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Set Keyboard preferences</li> <li>• Set page Layout</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Names of famous fonts used in Urdu composing</li> </ul>	<p><b>Theory-</b> 01 Hours</p> <p><b>Practical-</b> 06 Hours</p> <p><b>Total-</b> 07 Hours</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet Connection</li> <li>• Printer</li> </ul>	<p>Class Room /Computer Lab</p>



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



	<ul style="list-style-type: none"> <li>• Perform basic Formatting in Inpage File</li> <li>• Toggle between languages</li> <li>• Perform insert operation (picture etc.) in the Inpage file</li> <li>• Insert Columns</li> <li>• Save Inpage File</li> <li>• Print Inpage File</li> </ul>	<ul style="list-style-type: none"> <li>• Features of phonetic keyboard</li> <li>• Purpose of toggle function</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Compose and print given paragraph in Noori Font</p>		<ul style="list-style-type: none"> <li>• InPage Software</li> </ul>	
<p><b>LU 5.</b></p> <p>Backup office record and Maintain integrity of files</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Manage electronic record's backup</li> <li>• Create backup on cloud based storage.</li> <li>• Verify the integrity of backup by restoring backup</li> </ul>	<p><b>Knowledge Based Questions</b></p> <ul style="list-style-type: none"> <li>• Define backup</li> <li>• Importance of taking regular and schedule backups</li> <li>• Describe importance of maintaining data integrity</li> </ul> <p><b><u>Practical Activity:</u></b></p>	<p><b>Theory-</b> 01 Hours</p> <p><b>Practical-</b> 03 Hours</p> <p><b>Total-</b> 04 Hours</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet Connection</li> <li>• Backup Drives</li> <li>• Professional Office Suite (MS Office) )/ Compatible office suite as per</li> </ul>	<p>Class Room</p> <p>/Computer Lab</p>



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



		Upload file on cloud storage		Operating System	
<b>LU 6.</b> Convert Files	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Identify file conversion software</li> <li>Convert files into different formats</li> <li>Use online convertor to give a practical demonstration</li> </ul>	<b>Knowledge Based Questions:</b> <ul style="list-style-type: none"> <li>Requirement/need of file conversion</li> <li>List of famous file conversion software's</li> <li>Importance of PDF format</li> </ul> <u><b>Practical Activity:</b></u>  Convert a jpg file into pdf format using required software	<b>Theory-</b> 01 Hours  <b>Practical-</b> 03 Hours  <b>Total-</b> 04 Hours	<ul style="list-style-type: none"> <li>Computer</li> <li>Internet Connection</li> <li>Professional Office Suite (MS Office) )/ Compatible office suite as per Operating System</li> <li>Application Software</li> </ul>	Class Room /Computer Lab



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



### Module: 0613-S&AD&A-5. Perform efficient web browsing and Manage email

**Objective:** After the completion of this module, the Trainee will be able to develop skill and competence required to perform efficient web browsing and manage email and cloud storage.

**Duration:** 15 Hours

**Theory:** 03 Hours

**Practice:** 12 Hours

**Credit Hours:** 1.5

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU1.</b>  Perform Browsing	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Perform the components of browsing as per given instructions.</li> <li>Surf through different browsers to search required data.</li> </ul>	<u><b>Knowledge Based Questions</b></u> <ul style="list-style-type: none"> <li>List of famous web browsers</li> <li>Features of web browsing software</li> <li>Importance of Keywords in browsing</li> </ul> <u><b>Practical Activity:</b></u>	<b>Theory-</b> 0.5 Hour  <b>Practical-</b> 1.5 Hours  <b>Total-</b> 2 Hours	<ul style="list-style-type: none"> <li>Computer</li> <li>Internet Connection</li> <li>Web Browser</li> <li>Search Engines</li> <li>Operating System (Windows, Linux)</li> </ul>	Class Room  /Computer Lab



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		Type the given web address on address bar of the browser and access the website.			
<b>LU2.</b>  Download/ upload Data	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>• Explore different downloading tools</li> <li>• Search and download required information.</li> <li>• Upload required information on cloud.</li> </ul>	<u><b>Knowledge Based Questions</b></u> <ul style="list-style-type: none"> <li>• Define the term downloading and uploading</li> <li>• Enlist various downloading tools</li> <li>• Define the term 'Cloud Storage'</li> </ul> <u><b>Practical Activity:</b></u>  Upload and share the file in Cloud Storage	          <b>Theory-</b> 0.5 Hour <b>Practical-</b> 1.5 Hours <b>Total-</b> 2 Hours	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet Connection</li> <li>• Web Browser</li> <li>• Search Engines</li> <li>• Operating System (Windows, Linux)</li> </ul>	Class Room  /Computer Lab



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



<p><b>LU3.</b></p> <p>Create email accounts</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Create email accounts on various platforms.</li> <li>• Identify and remove errors while email configuration</li> <li>• Configure email account on outlook.</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Definition of the term 'E-mail' and 'Web mail'</li> <li>• Enlist famous email platforms</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Create and configure email account</p>	<p><b>Theory-</b> 0.5 Hour</p> <p><b>Practical-</b> 03 Hours</p> <p><b>Total-</b> 3.5 Hours</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet Connection</li> <li>• Web Browser</li> <li>• Search Engines</li> <li>• Operating System (Windows, Linux)</li> </ul>	<p>Class Room /Computer Lab</p>



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



<p><b>LU 4.</b></p> <p>Sort emails</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Demonstrate sorting of emails on the PC</li> <li>• Perform successful sorting of emails as per instructions</li> <li>• Search email for a particular content</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define the term 'sort'</li> <li>• Describe criteria of sorting emails</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Sort emails from a specific sender</p>	<p><b>Theory-</b> 0.5 Hour</p> <p><b>Practical-</b> 1.5 Hours</p> <p><b>Total-</b> 02 Hours</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet Connection</li> <li>• Web Browser</li> <li>• Search Engines</li> <li>• Operating System (Windows, Linux)</li> </ul>	<p>Class Room /Computer Lab</p>
<p><b>LU 5.</b></p> <p>Manage Address Book</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Open address book.</li> <li>• Demonstrate the method of managing the address book by adding some contacts, removing contacts, importing, exporting, sorting and updating etc.</li> </ul>	<p><b>Knowledge Based Questions</b></p> <ul style="list-style-type: none"> <li>• Purpose of address book</li> <li>• Benefits of keeping the address book updated</li> </ul> <p><b><u>Practical Activity:</u></b></p>	<p><b>Theory-</b> 0.5 Hour</p> <p><b>Practical-</b> 1.5 Hours</p> <p><b>Total-</b> 02 Hour</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet Connection</li> <li>• Web Browser</li> <li>• Search Engines</li> <li>• Operating System (Windows, Linux)</li> </ul>	<p>Class Room /Computer Lab</p>



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



		Add a new contact to the address book			
<b>LU 6.</b> Archive email	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Learn the procedure of Archiving Emails</li> <li>Demonstrate practically the procedure of archiving emails, as per requirements</li> </ul>	<b><u>Knowledge Based Questions</u></b> <ul style="list-style-type: none"> <li>Define the term Archive'</li> <li>Describe criteria of Archiving email</li> </ul> <b><u>Practical Activity:</u></b>  Perform email archiving of an identified email	<b>Theory-</b> 00 Hour  <b>Practical-</b> 1.5 Hours  <b>Total-</b> 1.5 Hour	<ul style="list-style-type: none"> <li>Computer</li> <li>Internet Connection</li> <li>Web Browser</li> <li>Search Engines</li> <li>Operating System (Windows, Linux)</li> </ul>	Class Room Computer Lab
<b>LU 7.</b> Send/Receive emails	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Compose emails using attachments</li> </ul>	<b><u>Knowledge Based Questions</u></b> <ul style="list-style-type: none"> <li>Description of email structure</li> <li>Types of Email attachment</li> <li>Purpose of adding subject line</li> </ul>	<b>Theory-</b> 0.5 Hour  <b>Practical-</b> 1.5 Hours  <b>Total-</b> 02 Hour	<ul style="list-style-type: none"> <li>Computer</li> <li>Internet Connection</li> <li>Web Browser</li> <li>Search Engines</li> </ul>	Class Room Computer Lab



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



	<ul style="list-style-type: none"><li>• Demonstrate the procedure to send an email.</li><li>• Demonstrate the procedure to receive an Email.</li><li>• Print emails.</li></ul>	<ul style="list-style-type: none"><li>• Define composing and formatting email</li><li>• Procedure of adding signature to email</li><li>• Explain the auto reply system generated message</li></ul> <p><b><u>Practical Activity:</u></b></p> <p>Compose an email and send to the desired addresses</p>		<ul style="list-style-type: none"><li>• Operating System (Windows, Linux)</li></ul>	
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## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



### Module: 0613-S&AD&A-6. Troubleshoot network problems

**Objective:** After the completion of this module, the Trainee will be able to develop skill and competence required to troubleshoot network problems.

**Duration:** 15 Hours

**Theory:** 03 Hours

**Practice:** 12 Hours

**Credit Hours:** 1.5

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU1.</b>  Configure wireless Internet connectivity	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Configure basic internet connectivity of a system</li> <li>Perform connectivity test successfully.</li> </ul>	<u><b>Knowledge Based Questions</b></u> <ul style="list-style-type: none"> <li>Define internet</li> <li>Describe LAN and WAN</li> </ul> <u><b>Practical Activity:</b></u>  Attach/connect a network device (router) to the system	<b>Theory-</b> 01 Hours  <b>Practical-</b> 03 Hours  <b>Total-</b> 04 Hours	<ul style="list-style-type: none"> <li>Computer</li> <li>Internet Connection</li> <li>Internet router/switch</li> <li>Printer</li> </ul>	Class Room  Computer Lab



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



<p><b>LU2.</b></p> <p>Configure LAN connectivity</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Configure basic LAN connectivity of a system</li> <li>• Perform connectivity test successfully.</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define Computer Network</li> <li>• Describe network Configuration</li> <li>• Describe DHCP</li> <li>• Types of IP address</li> <li>• Differentiate between modem, router and access point</li> <li>• Types of network cables</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Connect 02 systems for the purpose of file sharing</p>	<p><b>Theory-</b> 01 Hours</p> <p><b>Practical-</b> 06 Hours</p> <p><b>Total-</b> 07 Hours</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet Connection</li> <li>• Internet router/switch</li> <li>• Network Cable</li> <li>• Connectors</li> <li>• Printer</li> </ul>	<p>Class Room</p> <p>Computer Lab</p>
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## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



<p><b>LU3.</b></p> <p>Troubleshoot basic networking errors</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Communicate with help desk and other supporting services to quickly identify network problems</li> <li>• Use various tools and knowledge of network topology and protocols to identify network problems</li> <li>• Consult with vendor or service suppliers for assistance where appropriate</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define the term vendor</li> <li>• Importance of maintaining communication with the help desk</li> <li>• Knowledge of network topologies</li> <li>• Features of network device (router)</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Find, resolve and log report connectivity issue between two network devices</p>	<p><b>Theory-</b> 01 Hours</p> <p><b>Practical-</b> 03 Hours</p> <p><b>Total-</b> 04 Hours</p>	<ul style="list-style-type: none"> <li>• Computer Connection</li> <li>• Internet router/switch</li> <li>• LAN Connectivity</li> <li>• Printer</li> </ul>	<p>Class Room</p> <p>Computer Lab</p>
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## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



### Basics of Web development

#### Module: 0613-S&AD&A-7 Build a Webpage

**Objective:** After the completion of this module, the Trainee will be able to develop the skills and knowledge required to build a webpage

**Duration: 30 Hours**

**Theory:06 Hours**

**Practice: 24 Hours**

**Credit Hours: 3**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU1.</b> Create Head Section	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Write code in between Starting tag &lt;HTML&gt; and Closing tag &lt;/HTML&gt;</li> <li>Create head section using &lt;Head&gt;&lt;/Head&gt; tags</li> <li>Use &lt;Title&gt;&lt;/Title&gt; tags to give a title to the webpage</li> </ul>	<b>Knowledge based questions</b> <ul style="list-style-type: none"> <li>Explain Document Object Model (DOM)</li> <li>Define DOCTYPE, HTML version</li> <li>Enlist HTML tags, CDN, Meta Tags in Head section</li> </ul>	<b>Theory-02Hrs</b> <b>Practical-06Hrs</b> <b>Total-08Hrs</b>	<ul style="list-style-type: none"> <li>Computer System</li> <li>Browser (Chrome)</li> <li>Notepad/ HTML editor</li> </ul>	Computer Lab



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		<p><b><u>Practical Activity:</u></b></p> <p>Design webpage with head section tags</p>			
<p><b>LU2.</b> Prepare Body Section</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Start Body Section using &lt;Body&gt;&lt;/Body&gt; tags right after the head section</li> <li>Create headings using all six level heading &lt;h1&gt; - &lt;h6&gt; tags</li> <li>Insert text content using paragraph tag &lt;P&gt;&lt;/P&gt;</li> <li>Insert image into the webpage using &lt;IMG&gt; tag</li> </ul>	<p><b>Knowledge based questions</b></p> <ul style="list-style-type: none"> <li>Explains how to use the HTML &lt;body&gt; tag</li> <li>Enlist and describe HTML tags in body section</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Create a simple web page.</p>	<p><b>Theory-02Hrs</b></p> <p><b>Practical-09Hrs</b></p> <p><b>Total-11Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer System</li> <li>Browser (Chrome)</li> <li>Notepad/ HTML editor</li> </ul>	<p>Computer Lab</p>



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



	<ul style="list-style-type: none"><li>• Insert links using anchor tag <code>&lt;a&gt;&lt;/a&gt;</code></li><li>• Create Ordered lists using <code>&lt;OL&gt;&lt;/OL&gt;</code>, Unordered lists using <code>&lt;UL&gt;&lt;/UL&gt;</code> tags</li><li>• Create sections in the webpage using <code>&lt;DIV&gt;&lt;/DIV&gt;</code> tag</li><li>• Use <code>&lt;Table&gt;&lt;/Table&gt;</code> tags to prepare tables</li><li>• Insert media into the webpage using <code>&lt;Audio&gt;&lt;/Audio&gt;</code> and <code>&lt;Video&gt;&lt;/Video&gt;</code> tags</li><li>• Create Forms using <code>&lt;Form&gt;&lt;/Form&gt;</code> tags</li></ul>				
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## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



<p><b>LU3.</b> Use Semantic HTML tags to prepare a layout for the webpage</p>	<ul style="list-style-type: none"><li>• Create Header using &lt;Header&gt;&lt;/Header&gt; tag</li><li>• Create a Navigation bar using &lt;Nav&gt;&lt;/Nav&gt; tag</li><li>• Prepare sections using &lt;Section&gt;&lt;/Section&gt; tag</li><li>• Insert &lt;Article&gt;&lt;/Article&gt; tag to manage independent content.</li><li>• Create footer section of the webpage using &lt;Footer&gt;&lt;/Footer&gt; tag</li><li>• Save the file with .html file extension</li></ul>	<p><b>Knowledge based questions</b></p> <ul style="list-style-type: none"><li>• Describe Semantic Tags and their use in layout</li></ul> <p><b><u>Practical Activity:</u></b> Use semantic tag and make web page</p>	<p><b>Theory-02Hrs</b> <b>Practical-09Hrs</b> <b>Total-11Hrs</b></p>	<ul style="list-style-type: none"><li>• Computer System</li><li>• Browser</li><li>• Notepad/ HTML editor</li><li>• Internet</li></ul>	<p>Computer Lab</p>
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## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



### Module: 0613-S&AD&A-8 Work with stylesheets

**Objective:** After the completion of this module, the Trainee will be able to develop the skills and knowledge required to add effect and animation on web page by using style sheets.

**Duration:** 15Hours

**Theory:** 3Hours

**Practice:**12 Hours

**Credit Hours:** 1.5

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Add Inline CSS	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Change the font size and font style of Heading elements using CSS attributes to the tags</li> <li>Add background color in the webpage</li> <li>Apply different colors to the text</li> </ul>	<p><b>Knowledge based questions</b></p> <ul style="list-style-type: none"> <li>Describe Style sheet types</li> <li>Define the following: <ul style="list-style-type: none"> <li>Colors</li> <li>Backgrounds</li> <li>Borders</li> <li>Margins and padding</li> </ul> </li> </ul>	<p><b>Theory-01Hrs</b></p> <p><b>Practical-03Hrs</b></p> <p><b>Total-04Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer</li> <li>Internet</li> <li>Web Development IDE</li> <li>Html Editor</li> </ul>	Computer Lab



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



	<ul style="list-style-type: none"><li>• Create Borders around paragraph</li><li>• Set margins and padding of the paragraph</li><li>• Stylize the tables using CSS properties</li><li>• Add style to links and lists elements</li><li>• Apply inline styles to the image</li></ul>	<ul style="list-style-type: none"><li>○ Height/Width</li><li>○ Box Model</li><li>○ Typo</li><li>○ Link and list</li><li>○ Tables</li><li>○ Displays</li><li>○ Positions</li><li>○ Z-index</li><li>○ Pseudo elements</li><li>○ Pseudo classes</li><li>○ Attribute selectors</li><li>○ Forms</li><li>○ Flex</li><li>○ Grid</li><li>○ Media queries</li></ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"><li>• Apply a unique style to one HTML element</li></ul>			
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## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



<p><b>LU2.</b> Apply Internal CSS</p>	<ul style="list-style-type: none"> <li>• Insert &lt;Style&gt;&lt;/Style&gt; tag inside the head section</li> <li>• Add styles for heading, paragraph, image, list and table elements inside the &lt;Style&gt;&lt;/Style&gt; tag</li> </ul>	<p><b>Knowledge based questions</b></p> <ul style="list-style-type: none"> <li>• Describe how to work with internal CSS</li> <li>• Explain to add style in HTML elements</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>• Design webpage using Internal CSS</li> </ul>	<p><b>Theory-01Hrs</b></p> <p><b>Practical-03Hrs</b></p> <p><b>Total-04Hrs</b></p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet</li> <li>• Web Development IDE</li> <li>• Html Editor</li> </ul>	<p>Computer Lab</p>
<p><b>LU3.</b> Link Stylesheet with the webpage</p>	<ul style="list-style-type: none"> <li>• Prepare a stylesheet for the webpage.</li> <li>• Save the stylesheet with .css extension</li> <li>• Link the stylesheet with the HTML File.</li> </ul>	<p><b>Knowledge based questions</b></p> <ul style="list-style-type: none"> <li>• Explain how to create External style sheet</li> <li>• Define &lt;link&gt; tag</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>• Prepare a style sheet and link with webpage</li> </ul>	<p><b>Theory-01Hrs</b></p> <p><b>Practical-06Hrs</b></p> <p><b>Total-07Hrs</b></p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet</li> <li>• Web Development IDE</li> <li>• Html Editor</li> </ul>	<p>Computer Lab</p>



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



### Module: 0613-S&AD&A-9 Add bootstrap to incorporate responsiveness

**Objective:** After the completion of this module, the Trainee will be able to develop front end by using ready-made blocks of code to create a new website quickly

**Duration: 30 Hours**

**Theory: 06 Hours**

**Practice: 24 Hours**

**Credit Hours: 3**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Setup Bootstrap	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"><li>Download Bootstrap</li><li>Load Bootstrap via CDN or host it locally</li><li>Load Bootstrap files</li></ul>	<p><b>Knowledge based questions</b></p> <ul style="list-style-type: none"><li>Describe Bootstrap</li><li>Explain How to download Bootstrap</li><li>Explain Bootstrap local vs CDN</li></ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"><li>Download bootstrap</li></ul>	<p><b>Theory-03Hrs</b></p> <p><b>Practical-12Hrs</b></p> <p><b>Total-15Hrs</b></p>	<ul style="list-style-type: none"><li>Computer</li><li>Internet</li><li>Bootstrap</li><li>IDE</li></ul>	Computer Lab



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



<p><b>LU2. Implement Bootstrap</b></p>	<ul style="list-style-type: none"> <li>• Create HTML Page</li> <li>• Add layout including Navigation Bar, Header, Footer, Content section etc.</li> <li>• Create content container</li> <li>• Add Form</li> <li>• Add Tabs and cards</li> <li>• Add Background Image</li> <li>• Add carousel</li> </ul>	<p><b>Knowledge based questions</b></p> <ul style="list-style-type: none"> <li>• Describe different types of content containers</li> <li>• Describe grid system of bootstrap</li> <li>• Define different classes of bootstrap</li> </ul> <p><b><u>Practical Activity:</u></b> Create a resume responsive webpage with slider and main components (forms, tables etc.)</p>	<p><b>Theory-03Hrs</b> <b>Practical-12Hrs</b> <b>Total-15Hrs</b></p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet</li> <li>• Bootstrap</li> <li>• IDE</li> </ul>	<p>Computer Lab</p>
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## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



### Module: 0613-S&AD&A-10 Test responsiveness of webpage

**Objective:** After the completion of this module, the Trainee will be able to test responsiveness of a website based on screen size, platform and orientation.

**Duration:** 15Hours

**Theory:** 03Hours

**Practice:** 12Hours

**Credit Hours:** 1.5

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU1.</b> Load web page on different screen sizes	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Identify different types of screens and hand held devices</li> <li>Load the websites on each size of screen</li> <li>Remove the horizontal scroll in the website</li> </ul>	<b>Knowledge based questions</b> <ul style="list-style-type: none"> <li>Explain viewport, its uses in CSS</li> <li>Explain viewport meta tag in HTML</li> <li>Explain for Adding Responsive Breakpoints</li> <li>Explain different types of screens sizes in pixels</li> </ul>	<b>Theory-1.5Hrs</b> <b>Practical-06Hrs</b> <b>Total-7.5Hrs</b>	<ul style="list-style-type: none"> <li>Computer</li> <li>Web Development IDE ,</li> <li>Editors like Notpad ++ , VSCode Editor etc</li> <li>Bootstrap, JQuery, HTML, CSS, Javascript</li> <li>Internet</li> </ul>	Computer Lab



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



		<p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>• Load to website on different screen</li> </ul>			
<p><b>LU2.</b> Test website on browser developer tool</p>	<ul style="list-style-type: none"> <li>• Identify different types of browser developer tool</li> <li>• Select suitable browser</li> <li>• Open browser tool by clicking F12</li> <li>• Use selector tool to identify tag</li> <li>• Use “Toggle Device” toolbar to switch web page on different screen sizes</li> <li>• Explore Element Tab</li> <li>• Explore Console Tab</li> <li>• Explore Style Tab</li> </ul>	<p><b><u>Knowledge based questions</u></b></p> <ul style="list-style-type: none"> <li>• Describe browser Developer tool</li> <li>• Describe element, console and style tab</li> </ul> <p><b><u>Practical Activity</u></b></p> <ul style="list-style-type: none"> <li>• Test website by switching web page on different screen in developer tool</li> </ul>	<p><b>Theory-1.5Hrs</b></p> <p><b>Practical-06Hrs</b></p> <p><b>Total-7.5Hrs</b></p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Web Development IDE ,</li> <li>• Editors like Notpad ++ , VSCode Editor etc</li> <li>• Internet</li> <li>• Chrome Developer tool</li> </ul>	<p>Computer Lab</p>



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



### Module: 0613-S&AD&A-11 Debug the HTML and CSS code

**Objective:** After the completion of this module, the Trainee will be able to learn technique of debugging , manipulate webpage in real-time and Improve web page quality

**Duration: 15Hours**

**Theory: 03Hours**

**Practice: 12Hours**

**Credit Hours: 1.5**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Load webpage on Browser DevTools	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Run website on any browser like chrome preferably</li> <li>Select More Tools &gt; Developer Tools from chrome/web browser Main Menu.</li> <li>Right-click a page element and select Inspect.</li> </ul>	<p><b>Knowledge based questions</b></p> <ul style="list-style-type: none"> <li>Describe the inspect, test, and debug code in Dev tool</li> </ul> <p><b>Practical Activity:</b></p>	<p><b>Theory-01Hrs</b> <b>Practical-03Hrs</b> <b>Total-04Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer</li> <li>Bootstrap, JQuery, HTML, CSS</li> <li>IDE, Editor like notepad etc</li> <li>Chrome web developer tool, Mozilla developer option</li> </ul>	Computer Lab



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	<ul style="list-style-type: none"> <li>• Press Command+Option+I (Mac) or Control+Shift+I (Windows, Linux).</li> </ul>	<ul style="list-style-type: none"> <li>• Open webpage using Dev Tool</li> </ul>			
<b>LU2.</b> Debug the front-end : HTML	<ul style="list-style-type: none"> <li>• Open chrome browser press F12</li> <li>• Use selector tool to identify tag</li> <li>• Use “Toggle Device” toolbar to switch web page on different screen sizes</li> <li>• Open Element Tab</li> <li>• Click Inspect Data object model - DOM</li> <li>• Find Unclosed Tags</li> <li>• Add Closed tag if needed</li> <li>• Identify badly nested elements</li> <li>• Correct badly nested elements</li> </ul>	<p style="text-align: center;"><b><u>Knowledge based</u></b></p> <ul style="list-style-type: none"> <li>• Describe Front end debugging in html</li> <li>• Explain how to locate bug /error in front end.</li> </ul> <p><b>Practical Activity:</b></p> <ul style="list-style-type: none"> <li>• Identify and fix error in html tags of webpage</li> </ul>	<p style="text-align: center;"><b>Theory-01Hrs</b></p> <p style="text-align: center;"><b>Practical-03Hrs</b></p> <p style="text-align: center;"><b>Total-04Hrs</b></p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Bootstrap, JQuery, HTML, CSS</li> <li>• IDE, Editor like notepad etc Chrome web developer tool, Mozilla developer option</li> </ul>	<p style="text-align: center;">Computer Lab</p>



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	<ul style="list-style-type: none"> <li>• Run website on W3C Markup validation service to validate the website</li> <li>• Find errors by validating the site</li> </ul>				
<b>LU3. Debug the front-end: CSS</b>	<ul style="list-style-type: none"> <li>• Open chrome browser press F12</li> <li>• Use selector tool to identify tag</li> <li>• Use “Toggle Device” toolbar to switch web page on different screen sizes</li> <li>• Open Element Tab</li> <li>• Click Inspect Data object model – DOM</li> <li>• Click on element tab</li> <li>• Click on style tab on right side</li> </ul>	<p><b><u>Knowledge based</u></b></p> <ul style="list-style-type: none"> <li>• Describe Front end debugging in CSS</li> <li>• Explain DevTools Elements panel to inspect an element &amp; view the Styles pane.</li> <li>• Describe the Markup Validator</li> </ul> <p><b>Practical Activity:</b></p> <ul style="list-style-type: none"> <li>• Fix issue in CSS class</li> <li>• Validate your code using Validator tool</li> </ul>	<p><b>Theory-01Hrs</b></p> <p><b>Practical-06Hrs</b></p> <p><b>Total-07Hrs</b></p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Bootstrap, JQuery, HTML, CSS</li> <li>• IDE, Editor like notepad etc</li> <li>• Chrome web developer tool, Mozilla developer option</li> <li>• Markup validation service(W3C)</li> </ul>	Computer Lab



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	<ul style="list-style-type: none"><li>• Add/Edit the selected class of css</li><li>• Click on Computed Tab</li><li>• Find issue by Mouse over on box model to explore the sections of web elements and divs</li><li>• Fix issue by editing the css class</li><li>• Run website on W3C Markup validation service to validate the website</li><li>• Find errors by validating the site</li><li>• Fix errors</li></ul>				
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## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



### Blogger

#### Module: 0613-S&AD&A-12. Identify your niche

**Objective:** After the completion of this module, the trainee will be able to develop skill and competence required to identify his/her niche in blog writing.

**Duration:** 15 Hours

**Theory:** 03 Hours

**Practice:** 12 Hours

**Credit Hours:** 15

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU1.</b>  Research on topic	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Open search engine (Google, Yahoo, Bing etc.)</li> <li>Search for top blogging topics</li> <li>In the resulting topics, find the one that suits / attracts you most</li> </ul>	<u><b>Knowledge Based Questions</b></u> <ul style="list-style-type: none"> <li>Define the term blog</li> <li>Describe blog content</li> <li>List of famous search engines</li> <li>Qualities of a good blogging topic</li> </ul>	<b>Theory-</b> 01 Hour  <b>Practical-</b> 03 Hours  <b>Total-</b> 04 Hours	<ul style="list-style-type: none"> <li>Web Browser</li> <li>Search Engines (Google, Bing, yahoo)</li> <li>Google Keyword Planner</li> </ul>	Class Room  Computer Lab



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



		<p><b><u>Practical Activity:</u></b></p> <p>Perform search for blog on the given topic</p>			
<p><b>LU2.</b></p> <p>Filter the researched topics</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Classify the researched niches based on different criteria. Like personal liking, social norms, demographics, etc.</li> <li>Select most appropriate class of niche among them.</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>Define the term niche</li> <li>Classification of niche selection criteria</li> <li>Impact of social norms and demographics on choice of niche</li> <li>Describe the filtration process for topic selection</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Filter the researched topic</p>	<p><b>Theory-</b> 0.5 Hour</p> <p><b>Practical-</b> 03 Hours</p> <p><b>Total-</b> 3.5 Hours</p>	<ul style="list-style-type: none"> <li>Web Browser</li> <li>Search Engines (google, bing, yahoo)</li> <li>Google Keyword Planner</li> </ul>	<p>Class Room</p> <p>Computer Lab</p>



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<p><b>LU3.</b></p> <p>Find your competitors</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Search your local competitors within your niche.</li> <li>• Search your global competitors within your niche.</li> <li>• Find out the work of your competitors in local and international market</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define the term “Competitor”.</li> <li>• Describe local and global competitors within the niche</li> <li>• Advantages of comparison your work with the competitors</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Present the work of two best blogger of same niche as yours</p>	<p><b>Theory-</b> 0.5 Hour</p> <p><b>Practical-</b> 03 Hours</p> <p><b>Total-</b> 3.5 Hours</p>	<ul style="list-style-type: none"> <li>• Web Browser</li> <li>• Search Engines (google, bing, yahoo)</li> <li>• Google Keyword Planner</li> </ul>	<p>Class Room</p> <p>Computer Lab</p>
<p><b>LU 4.</b></p> <p>Perform competitive analysis</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Compile the attributes of work done by your competitors</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define the term competitive edge.</li> <li>• Describe the use of keyword planner.</li> </ul>	<p><b>Theory-</b> 01 Hour</p> <p><b>Practical-</b> 03 Hours</p> <p><b>Total-</b> 04 Hours</p>	<ul style="list-style-type: none"> <li>• Web Browser</li> <li>• Search Engines (Google, Bing, yahoo)</li> </ul>	<p>Class Room</p> <p>Computer Lab</p>



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	<ul style="list-style-type: none"><li>• Identify the competitive edge</li><li>• Find cost per click (CPC) using keyword planner like the Google Keyword Planner</li><li>• Find Keyword Difficulty (KD) level using keyword planner like the Google Keyword Planner</li></ul>	<ul style="list-style-type: none"><li>• Explain Keyword difficulty.</li></ul> <p><b><u>Practical Activity:</u></b></p> <p>Perform comparison of work of two best blogger of same niche as yours</p>		<ul style="list-style-type: none"><li>• Google Keyword Planner</li></ul>	
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## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



### Module: 0613-S&AD&A-13. Create Blog

**Objective:** After the completion of this module, the Trainee will be able to develop skill and competence required to create blog.

**Duration:** 30 Hours

**Theory:** 06 Hours

**Practice:** 24 Hours

**Credit Hours:** 03

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU1.</b>  Search Blogging Platform	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Search different free blog platform like blogger, Wordpress, WIX, Tumblr etc.</li> <li>Compare features of these platform including free and paid.</li> <li>Select appropriate blog site.</li> </ul>	<u><b>Knowledge Based Questions</b></u> <ul style="list-style-type: none"> <li>Define CMS</li> <li>Describe the difference between free and paid blogging platforms</li> <li>Explain the advantages of using a paid blogging platform</li> </ul> <u><b>Practical Activity:</b></u>	  <b>Theory-</b> 02 Hours  <b>Practical-</b> 06 Hours  <b>Total-</b> 08 Hours	<ul style="list-style-type: none"> <li>Web browser</li> <li>Search Engines</li> <li>Word Press</li> <li>WIX</li> <li>Blogger</li> <li>Tumblr</li> </ul>	Class Room       Computer Lab



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		Compare the features of free and paid wordpress CMS			
<p><b>LU2.</b></p> <p>Explore working blogging platform of</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Explore the interface of the selected blogs sites</li> <li>• Learn the working of their features and tools</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Explain the term interface</li> <li>• Describe navigation</li> <li>• Enlist qualities of a good user interface for blog creation</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Explore and compare the features offered by famous CMS platforms</p>	<p><b>Theory-</b> 02 Hours</p> <p><b>Practical-</b> 09Hours</p> <p><b>Total-</b> 11 Hours</p>	<ul style="list-style-type: none"> <li>• Web browser</li> <li>• Search Engines</li> <li>• Word Press</li> <li>• WIX</li> <li>• Blogger</li> <li>• Tumblr</li> </ul>	<p>Class Room</p> <p>Computer Lab</p>



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<p><b>LU3.</b></p> <p>Create Blog</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Sign up at selected blog site for login purpose in future</li> <li>• Create new Blog</li> <li>• Set name/title of the blog</li> <li>• Write description of the blog</li> <li>• Use images for the blog like logo</li> <li>• Able to edit blog information</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Describe the importance of setting a proper name for the blog</li> <li>• Enlist importance of using images in a blog</li> <li>• Necessity of editing the blog information</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Set appropriate logo for the blog</p>	<p><b>Theory-</b> 02 Hours</p> <p><b>Practical-</b> 09 Hours</p> <p><b>Total-</b> 11 Hours</p>	<ul style="list-style-type: none"> <li>• Web browser</li> <li>• Search Engines</li> <li>• Word Press</li> <li>• WIX</li> <li>• Blogger</li> <li>• Tumblr</li> </ul>	<p>Class Room</p> <p>Computer Lab</p>
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## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



### Module: 0613-S&AD&A-14. Generate, research, and pitch ideas for posts

**Objective:** After the completion of this module, the Trainee will be able to develop skill and competence required to generate, research, and pitch ideas for posts

Duration: 30 Hours

Theory: 06 Hours

Practice: 24 Hours

Credit Hours: 03

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU1.</b>  Research the idea	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Research for latest and trending topics for blog posts</li> <li>Identify keywords for Title</li> <li>Search keywords for contents</li> <li>Search keywords for tags</li> </ul>	<b><u>Knowledge Based Questions</u></b> <ul style="list-style-type: none"> <li>Explain the term trending topics in blog writing perspective</li> <li>Define Keyword</li> <li>Explain the purpose of tags in a blog</li> </ul> <b><u>Practical Activity:</u></b>	<b>Theory-</b> 01 Hours  <b>Practical-</b> 06 Hours  <b>Total-</b> 07 Hours	<ul style="list-style-type: none"> <li>Canva (Online Image Designing Tool)</li> <li>LSIgraph (<a href="https://lsigraph.com/">https://lsigraph.com/</a>)</li> <li>Google Keyword Planner</li> <li>Google Analytics</li> </ul>	Class Room  Computer Lab



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		Search for the current trending topics for writing a blog		<ul style="list-style-type: none"> <li>Ahref</li> </ul>	
<p><b>LU2.</b></p> <p>Select eye catching title</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Search different titles to attract audience.</li> <li>Identify focus keywords that can be used in title.</li> <li>Relate title with the idea of post.</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>Define focus keywords</li> <li>Describe the need for setting up an attractive topic</li> <li>Elaborate relation of blog title and content</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Write an attractive blog title</p>	<p><b>Theory-</b> 01 Hours</p> <p><b>Practical-</b> 03 Hours</p> <p><b>Total-</b> 04 Hours</p>	<ul style="list-style-type: none"> <li>Canva (Online Image Designing Tool)</li> <li>LSIgraph (<a href="https://lsi-graph.com/">https://lsi-graph.com/</a>)</li> <li>Google Keyword Planner</li> <li>Moz</li> <li>Ahref</li> <li>Google Analytics</li> </ul>	<p>Class Room</p> <p>Computer Lab</p>



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<p><b>LU3.</b></p> <p>Create content for the idea</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Use focus keyword in H1 (Heading style).</li> <li>• Prepare textual content of the post in effective manners to narrate the whole idea</li> <li>• Use textual, images and infographics in the contents of the idea</li> <li>• Use ALT keywords in image</li> <li>• Relate Latent Semantic Index (LSI) keywords in the contents</li> <li>• Design images for the contents</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Full form of HTML</li> <li>• Explain markup tags</li> <li>• Define Infographics</li> <li>• Describe the importance of ALT keywords</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Write 02 paragraphs on the given blog topic</p>	<p><b>Theory-</b> 02 Hours</p> <p><b>Practical-</b> 09 Hours</p> <p><b>Total-</b> 11 Hours</p>	<ul style="list-style-type: none"> <li>• Canva (Online Image Designing Tool)</li> <li>• LSIgraph (<a href="https://lsigraph.com/">https://lsigraph.com/</a>)</li> <li>• Google Keyword Planner</li> <li>• Moz</li> <li>• Ahref</li> <li>• Google Analytics</li> </ul>	<p>Class Room</p> <p>Computer Lab</p>
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## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



<p><b>LU4.</b> Add keywords in Tags</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Search your local competitors within your niche.</li> <li>• Search your global competitors within your niche.</li> <li>• Find out the work of your competitors in local and international market</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Describe how to conduct competitor analysis</li> <li>• Distinguish between local and global keyword competition</li> <li>• Explain how to add keyword to a post for SEO</li> <li>• Explain how to check keyword ranking in google</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Add keyword to content/article/blog for SEO</p>	<p><b>Theory-</b> 02 Hours <b>Practical-</b> 06 Hours <b>Total-</b> 08 Hours</p>	<ul style="list-style-type: none"> <li>• Google Keyword Planner</li> <li>• Ahref</li> <li>• Google Analytics</li> </ul>	<p>Class Room</p> <p>Computer Lab</p>
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## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



### Module: 0613-S&AD&A-15. Develop methods to attract new and existing readers

**Objective:** After the completion of this module, the Trainee will be able to develop skill and competence required to Develop methods to attract new and existing readers

Duration: 38 Hours

Theory: 08 Hours

Practice: 30 Hours

Credit Hours: 3.8

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU1.</b>  Promote posts through social media	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Design the content for the post</li> <li>Research potential social media platforms</li> <li>Publish post on social media platforms</li> <li>Boost the post if needed</li> </ul>	<u><b>Knowledge Based Questions</b></u> <ul style="list-style-type: none"> <li>Differentiate between website and social media sites</li> <li>Name popular social media sites</li> <li>Role of social media sites in blog posts promotion</li> </ul> <u><b>Practical Activity:</b></u>	<b>Theory-</b> 02 Hours  <b>Practical-</b> 12 Hours  <b>Total-</b> 14 Hours	<ul style="list-style-type: none"> <li>Computer System</li> <li>Internet Connection</li> <li>Web Browser</li> <li>Search Engines</li> <li>Email server/sites</li> <li>SMS services</li> </ul>	Class Room  Computer Lab



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



		Write a post for social media and publish it.		<ul style="list-style-type: none"> <li>• Google Webmaster</li> <li>• Page Speed Insight by Google</li> </ul>	
<p><b>LU2.</b></p> <p>Promote posts through email marketing</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Design the content/newsletter for email</li> <li>• Generate list of potential recipients from different sources</li> <li>• Send email</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define the term email marketing</li> <li>• Importance of newsletter for promotion of posts</li> <li>• Important feature of a newsletter</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Write a newsletter</p>	<p><b>Theory-</b> 02 Hours</p> <p><b>Practical-</b> 03 Hours</p> <p><b>Total-</b> 05 Hours</p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Web Browser</li> <li>• Search Engines</li> <li>• Email server/sites</li> <li>• SMS services</li> <li>• Google Webmaster</li> <li>• Page Speed Insight by Google</li> </ul>	<p>Class Room</p> <p>Computer Lab</p>



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



<p><b>LU3.</b></p> <p>Promote posts through sms marketing</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Design textual content for sms</li> <li>• Generate list of potential recipients from appropriate sources</li> <li>• Send sms</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define the term SMS</li> <li>• Define sender and recipient</li> <li>• Benefits of SMS based promotion</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Compose a SMS post</p>	<p><b>Theory- 02 Hours</b></p> <p><b>Practical- 03 Hours</b></p> <p><b>Total- 05 Hours</b></p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Web Browser</li> <li>• Search Engines</li> <li>• Email server/sites</li> <li>• SMS services</li> <li>• Google Webmaster</li> <li>• Page Speed Insight by Google</li> </ul>	<p>Class Room</p> <p>Computer Lab</p>
<p><b>LU 4.</b></p> <p>Perform SEO</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Identify the famous search engines</li> <li>• Identify the keywords related to post</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define the term SEO</li> <li>• Importance of Keywords in SEO</li> </ul>	<p><b>Theory- 02 Hours</b></p> <p><b>Practical- 12 Hours</b></p> <p><b>Total- 14 Hours</b></p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Web Browser</li> </ul>	<p>Class Room</p> <p>Computer Lab</p>



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



	<ul style="list-style-type: none"><li>• Index post in search engine using different tools</li><li>• Determine blog optimization through SEO tools including responsiveness and page load speed</li></ul>	<ul style="list-style-type: none"><li>• Benefits of taking care of SEO aspect</li><li>• Explain the term blog optimization</li></ul> <p><b><u>Practical Activity:</u></b></p> <p>Make a list of the keywords for the given blog topic</p>		<ul style="list-style-type: none"><li>• Search Engines</li><li>• Email server/sites</li><li>• SMS services</li><li>• Google Webmaster</li><li>• Page Speed Insight by Google</li></ul>	
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## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



### Graphic Designer

Module: 0613-S&AD&A-16. Explore Graphic Designing Tools

**Objective:** After the completion of this module, the Trainee will be able to develop the skills and knowledge required to explore graphic designing tools.

**Duration: 19 Hours**

**Theory:04 Hours**

**Practice: 15 Hours**

**Credit Hours: 1.9**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU1.</b> Familiarize with Graphic Designing Tools	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Search designing tools being used in the industry</li> <li>Explore features of graphic designing tools</li> </ul>	<b>Knowledge based questions</b> <ul style="list-style-type: none"> <li>Enlist the available Graphic Designing Tools</li> <li>Enlist each graphic tool features</li> </ul> <b><u>Practical Activity:</u></b>	<b>Theory-02Hrs</b> <b>Practical-7.5Hrs</b> <b>Total-9.5Hrs</b>	<ul style="list-style-type: none"> <li>Computer (with a dedicated RAM and VGA Cache , minimum 10K series and above graphic card)</li> <li>High Speed Internet</li> <li>Browser for search engine</li> <li>Graphic Designing Tool</li> </ul>	Computer Lab/Class room



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



		<ul style="list-style-type: none"> <li>Search Graphic Designing tool</li> </ul>			
<b>LU2.</b> Select Best Tools for Designing	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Select the best tools for designing purposes.</li> <li>Categorize the tools according to their purposes</li> </ul>	<b>Knowledge based questions</b> <ul style="list-style-type: none"> <li>Describe the best designing tool according to visual composition need</li> <li>Enlist each graphic tool features</li> </ul> <u><b>Practical Activity:</b></u> <ul style="list-style-type: none"> <li>Search Best graphic tool according to purpose</li> </ul>	<b>Theory-02Hrs</b> <b>Practical-7.5Hrs</b> <b>Total-9.5Hrs</b>	<ul style="list-style-type: none"> <li>Computer (with a dedicated RAM and VGA Cache , minimum 10K series and above graphic card)</li> <li>High Speed Internet</li> <li>Browser for search engine</li> <li>Graphic Designing Tool ( Pixlr, Illustrator, Photoshop etc.)</li> </ul>	Computer Lab/Class room



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



### Module: 0613-S&AD&A-17. Install Graphic Designing Tools

**Objective:** After the completion of this module, the Trainee will be able to develop the skills and knowledge required to install graphic designing tools

Duration: 30Hours

Theory: 06Hours

Practice:24 Hours

Credit Hours: 3

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Download Designing Tools	<ul style="list-style-type: none"> <li>Explore all required free and paid designing tools/software</li> <li>Select the appropriate tools</li> <li>Download the selected tools</li> </ul>	<p><b>Knowledge based questions</b></p> <ul style="list-style-type: none"> <li>Describe paid and free versions of designing tools</li> <li>Describe how to download graphic tool</li> </ul> <p><b>Practical Activity:</b></p> <ul style="list-style-type: none"> <li>Download required graphic designing tool</li> </ul>	<p><b>Theory-03Hrs</b></p> <p><b>Practical-12Hrs</b></p> <p><b>Total-15Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer (with a dedicated RAM and VGA Cache , minimum 10K series and above graphic card)</li> <li>High Speed Internet</li> <li>Graphic Designing Tool</li> </ul>	Computer Lab/Class room



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<p><b>LU2.</b> Install Designing Tools</p>	<ul style="list-style-type: none"> <li>Choose relevant photo-editing or designing software according to work nature.</li> <li>Explore designing tools in Windows Apps (free and paid).</li> <li>Install the chosen ones for assigned designing tasks.</li> </ul>	<p><b>Knowledge based questions</b></p> <ul style="list-style-type: none"> <li>Describe designing tool according to visual composition need</li> <li>Enlist minimum hardware requirement</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>Install required graphic designing tool</li> </ul>	<p><b>Theory-03Hrs</b>  <b>Practical-12Hrs</b>  <b>Total-15Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer (with a dedicated RAM and VGA Cache , minimum 10K series and above graphic card)</li> <li>High Speed Internet</li> <li>Graphic Designing Tool</li> </ul>	<p>Computer Lab/Class room</p>
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## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



### Module: 0613-S&AD&A-18. Design Mock-ups for Webpages

**Objective:** After the completion of this module, the Trainee will be able to develop the skills and knowledge required to design wireframe and mock-ups for webpages.

**Duration:** 30Hours

**Theory:** 06Hours

**Practice:** 24 Hours

**Credit Hours:** 3

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Design a Wireframe	<ul style="list-style-type: none"> <li>Search for the best available tools for designing a wireframe.</li> <li>Download and install the tools</li> <li>Design the wireframe of the product</li> </ul>	<p><b>Knowledge based questions</b></p> <ul style="list-style-type: none"> <li>Explore different open source wireframe and mockup designing tools.</li> <li>Explain the tools setup process including font's and plugins setups.</li> <li>Describe different type of wire framing work flow and mock up</li> </ul>	<p><b>Theory-01Hrs</b></p> <p><b>Practical-03Hrs</b></p> <p><b>Total-04Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer</li> <li>High Speed Internet</li> <li>For Wireframe design (Photoshop ,Wireframe, Adobe XD etc)</li> </ul>	Computer Lab/Class room



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		<p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>Design wireframe according to project requirement</li> </ul>			
<p><b>LU2. Organize Information Architecture</b></p>	<ul style="list-style-type: none"> <li>Organize website content on the webpage such as information for the product on which website is being designed.</li> <li>Put information in logical and hierarchical manner.</li> </ul>	<p><b>Knowledge based questions</b></p> <ul style="list-style-type: none"> <li>Describe the process about Categorizing and structuring information about the product</li> <li>Enlist Information, datatypes and documents</li> <li>Explain multiple approaches by gathering the domain knowledge for designing the wireframes</li> </ul> <p><b><u>Practical Activity:</u></b></p>	<p><b>Theory-01Hrs</b></p> <p><b>Practical-03Hrs</b></p> <p><b>Total-04Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer</li> <li>High Speed Internet</li> <li>Graphic Designing Tools</li> </ul>	<p>Computer Lab/Class room</p>



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		<ul style="list-style-type: none"> <li>• Create a single page application (SPA) wireframe</li> </ul>			
<b>LU3.</b> Enhance User Experience	<ul style="list-style-type: none"> <li>• Draft the information for better user interaction.</li> <li>• Place the information or content for easy navigation.</li> </ul>	<p><b>Knowledge based questions</b></p> <ul style="list-style-type: none"> <li>• Explain methods to get user interaction information</li> </ul> <p><b>Practical Activity:</b></p> <ul style="list-style-type: none"> <li>• Design Simple_Layout for easy navigation</li> </ul>	<p><b>Theory-01Hrs</b></p> <p><b>Practical-03Hrs</b></p> <p><b>Total-04Hrs</b></p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• High Speed Internet</li> <li>• Graphic Designing Tools</li> </ul>	Computer Lab/Class room
<b>LU4.</b> Arrange Visual Hierarchy (Layout)	<ul style="list-style-type: none"> <li>• Design all elements in order on the webpage(s).</li> <li>• Put all elements (content) on the webpage(s) properly according to their sizes.</li> </ul>	<p><b>Knowledge based questions</b></p> <ul style="list-style-type: none"> <li>• Describe principle of Visual Hierarchy</li> </ul>	<p><b>Theory-01Hrs</b></p> <p><b>Practical-03Hrs</b></p> <p><b>Total-04Hrs</b></p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• High Speed Internet</li> <li>• Graphic Designing Tools</li> </ul>	Computer Lab/Class room



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	<ul style="list-style-type: none"> <li>Organize everything on the webpage(s) appropriately by positioning them and providing them well needed space.</li> </ul>	<ul style="list-style-type: none"> <li>Describe the paddings and margins between layout elements.</li> <li>Explain the different types of spacing units used in graphics</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>Arrange element and information on web page.</li> </ul>			
<p><b>LU5. Select an Attractive Color Scheme</b></p>	<ul style="list-style-type: none"> <li>Select the color scheme to be used on the webpage(s) according to the niche and client requirement.</li> <li>Choose those colors in a style that become interactive and attention-grabbing for the viewers.</li> </ul>	<p><b>Knowledge based questions</b></p> <ul style="list-style-type: none"> <li>Explain color theory</li> <li>Understanding different Color Scheme according to project requirement</li> </ul>	<p><b>Theory-0.5Hrs</b> <b>Practical-03Hrs</b> <b>Total-3.5Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer</li> <li>High Speed Internet</li> <li>Graphic Designing Tools</li> </ul>	<p>Computer Lab/Class room</p>



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	<ul style="list-style-type: none"> <li>Arrange it in a manner that will be used in the final product.</li> </ul>	<ul style="list-style-type: none"> <li>Gather client requirement for color scheme</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>Choose color palette and theme for webpage.</li> </ul>			
<p><b>LU6. Place Typography in Design</b></p>	<ul style="list-style-type: none"> <li>Collect the fonts with their types and sizes.</li> <li>Make the fonts (text) bold and un-bold accordingly.</li> <li>Adjust the text into the design to make it appealing for the viewers.</li> <li>Arrange it in a manner that will be used in the final product.</li> </ul>	<p><b>Knowledge based questions</b></p> <ul style="list-style-type: none"> <li>Describe rule for choosing Typography</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>Select Typography according to project requirement</li> </ul>	<p><b>Theory-0.5Hrs</b></p> <p><b>Practical-03Hrs</b></p> <p><b>Total-3.5Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer</li> <li>High Speed Internet</li> <li>Graphic Designing Tools</li> </ul>	<p>Computer Lab/Class room</p>



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<b>LU7. Prepare Final Mock-up</b>	<ul style="list-style-type: none"><li>• Collect SVG (file format) images</li><li>• Use SVG images in the mock-up preparation</li><li>• Use high quality images (other than SVG) in the mock up preparation</li><li>• Arrange mockups as per requirement</li><li>• Make your navigation clickable for best user testing</li></ul>	<b>Knowledge based questions</b> <ul style="list-style-type: none"><li>• Describe SVG images</li><li>• Describe feature of High quality image with free royalty</li></ul> <b><u>Practical Activity:</u></b> <ul style="list-style-type: none"><li>• Design final Mock-up</li></ul>	<b>Theory-01Hrs</b> <b>Practical-06Hrs</b> <b>Total-07Hrs</b>	<ul style="list-style-type: none"><li>• Computer</li><li>• High Speed Internet</li><li>• Graphic Designing Tools</li><li>• Inkscape (SVG images)</li></ul>	Computer Lab/Class room
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### Module: 0613-S&AD&A-19. Design Mock-ups for Mobile Applications

**Objective:** After the completion of this module, the Trainee will be able to develop skill and competence required to Design wireframe and Mock-ups for Mobile Applications

**Duration:** 45 Hours

**Theory:** 09 Hours

**Practice:** 36 Hours

**Credit Hours:** 4.5

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU1.</b>  Design Wireframe	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Search for the best available tools for designing a wireframe.</li> <li>Download and install the tools</li> <li>Design the wireframe of the product.</li> </ul>	<u><b>Knowledge Based Questions</b></u> <ul style="list-style-type: none"> <li>Explore, the different open source mockup designing tools.</li> <li>Explain the tools setup process including font's and plugins setups.</li> <li>Describe different type of mock up or wire framing work flow.</li> </ul>	<b>Theory-</b> 1 Hour <b>Practical-</b> 3 Hours <b>Total-</b> 4 Hours	<ul style="list-style-type: none"> <li>Desktop computer or laptop</li> <li>All popular and best in use wireframe and mock-up designing tools</li> <li>Search engine</li> <li>High speed Internet</li> </ul>	Computer Lab/Class room



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



		<p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>Design wireframe according to project requirement</li> </ul>		<ul style="list-style-type: none"> <li>Printer</li> </ul>	
<p><b>LU2.</b></p> <p>Organize Information Architecture</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Organize website content on mobile applications such as information for the product on which the app is being designed.</li> <li>Put information in logical and hierarchical manner.</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>Explain the different approaches for designing mockups e.g. Web first and Mobile first.</li> <li>Explain multiple approaches by gathering the domain knowledge for designing the wire frames.</li> <li>Describe the project workflow architecture.</li> </ul>	<p><b>Theory- 1 Hour</b></p> <p><b>Practical- 6 Hours</b></p> <p><b>Total- 7 Hours</b></p>	<ul style="list-style-type: none"> <li>Desktop computer or laptop</li> <li>All popular and best in use wireframe and mock-up designing tools</li> <li>Search engine</li> <li>High speed Internet</li> <li>Printer</li> </ul>	<p>Computer Lab/Class room</p>



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		<p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>• Create empty layouts to validate the mobile page size wireframe.</li> </ul>			
<p><b>LU3.</b></p> <p>Enhance User Experience</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Draft the information for better user interaction.</li> <li>• Place the information or content for easy navigation.</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Explain the navigational app design</li> <li>• Explain the different techniques to gather and display the relevant information on layouts.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>• Create a simple Layout for the cart page</li> </ul>	<p><b>Theory- 1 Hour</b></p> <p><b>Practical- 3 Hours</b></p> <p><b>Total- 4 Hours</b></p>	<ul style="list-style-type: none"> <li>• Desktop computer or laptop</li> <li>• All popular and best in use wireframe and mock-up designing tools</li> <li>• Search engine</li> <li>• High speed Internet</li> </ul>	<p>Computer Lab/Class room</p>



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				<ul style="list-style-type: none"> <li>• Printer</li> </ul>	
<p><b>LU 4.</b></p> <p>Arrange Visual Hierarchy (Layout)</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Design all elements in order on mobile applications.</li> <li>• Put all elements (content) on mobile applications properly according to their sizes.</li> <li>• Organize everything on mobile applications appropriately by positioning them and providing them well needed space.</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Describe the UI consistency.</li> <li>• Describe the paddings and margins. Between layout elements.</li> <li>• Explain the different types of spacing units used in graphics designing tool.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>• Add label and textbox field with 1rem margin and 1px margin and log the difference between both results</li> </ul>	<p><b>Theory- 1 Hour</b></p> <p><b>Practical- 3 Hours</b></p> <p><b>Total- 4 Hours</b></p>	<ul style="list-style-type: none"> <li>• Desktop computer or laptop</li> <li>• All popular and best in use wireframe and mock-up designing tools</li> <li>• Search engine</li> <li>• High speed Internet</li> <li>• Printer</li> </ul>	<p>Computer Lab/Class room</p>



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<p><b>LU 5.</b></p> <p>Select an Attractive Color Scheme</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Select the color scheme to be used on mobile applications according to the requirement.</li> <li>• Choose those colors in a style that become interactive and attention-grabbing for the viewers.</li> <li>• Arrange it in a manner that will be used in the final product.</li> </ul>	<p><b>Knowledge Based Questions</b></p> <ul style="list-style-type: none"> <li>• Explain color theory</li> <li>• Understanding different Color Scheme according to project requirement</li> <li>• Gather client requirement for color scheme</li> </ul> <p><b><u>Practical Activity:</u></b> Design an eye catching Login page layout.</p>	<p><b>Theory-</b> 1 Hour <b>Practical-</b> 6 Hours <b>Total-7</b> Hours</p>	<ul style="list-style-type: none"> <li>• Desktop computer or laptop</li> <li>• All popular and best in use wireframe and mock-up designing tools</li> <li>• Search engine</li> <li>• High speed Internet</li> <li>• Printer</li> </ul>	<p>Computer Lab/Class room</p>
<p><b>LU 6.</b></p> <p>Place Typography in Design</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Collect the fonts with their types and sizes.</li> <li>• Make the fonts (text) bold and un-bold accordingly.</li> <li>• Adjust the text into the design to make it appealing for the viewers.</li> </ul>	<p><b>Knowledge Based Questions</b></p> <ul style="list-style-type: none"> <li>• Explain different fonts design.</li> <li>• Describe the Font weight and font family in designing tools.</li> </ul>	<p><b>Theory-</b> 1 Hour <b>Practical-</b> 6 Hours <b>Total-7</b> Hours</p>	<ul style="list-style-type: none"> <li>• Desktop computer or laptop</li> <li>• All popular and best in use wireframe and</li> </ul>	<p>Computer Lab/Class room</p>



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	<ul style="list-style-type: none"> <li>• Arrange it in a manner that will be used in the final product.</li> </ul>	<ul style="list-style-type: none"> <li>• Explain the user friendly fonts.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>• Import Lato family font into your sample project and change its font weight to 600 and font size 16px</li> </ul>		<p>mock-up designing tools</p> <ul style="list-style-type: none"> <li>• Search engine</li> <li>• High speed Internet</li> <li>• Printer</li> </ul>	
<p><b>LU 7.</b></p> <p>Arrange Images</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Collect and use SVG images to use in the mock-up which mirror exactly the ones to be used in final product.</li> <li>• Collect and use high quality images (other than SVG) to use in the mock-up which mirror exactly</li> </ul>	<p><b>Knowledge Based Questions</b></p> <ul style="list-style-type: none"> <li>• Explain different resolutions for designing the mockups.</li> <li>• Explain the importance of SVG's</li> </ul>	<p><b>Theory- 1 Hour</b></p> <p><b>Practical- 3 Hours</b></p> <p><b>Total-4 Hours</b></p>	<ul style="list-style-type: none"> <li>• Desktop computer or laptop</li> <li>• All popular and best in use wireframe and mock-up designing tools</li> <li>• Search engine</li> </ul>	<p>Computer Lab/Class room</p>



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



	<p>the ones to be used in final product.</p>	<ul style="list-style-type: none"> <li>Describe multiple techniques to retain the image aspect ratio</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>Design a sample SVG of login page</li> </ul>		<ul style="list-style-type: none"> <li>High speed Internet</li> <li>Printer</li> </ul>	
<p><b>LU 8.</b></p> <p>Make Interactive and Clickable Mock-up</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Make your mock-up mobile app interactive.</li> <li>Make your navigation clickable for best user testing.</li> </ul>	<p><b>Knowledge Based Questions</b></p> <ul style="list-style-type: none"> <li>Explain the different techniques of interactivity.</li> <li>Explain the navigational app design</li> </ul>	<p><b>Theory- 2 Hours</b></p> <p><b>Practical- 6 Hours</b></p> <p><b>Total-8 Hours</b></p>	<ul style="list-style-type: none"> <li>Desktop computer or laptop</li> <li>All popular and best in use wireframe and mock-up designing tools</li> <li>Search engine</li> </ul>	<p>Computer Lab/Class room</p>



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



		<ul style="list-style-type: none"><li>• Explore the different navigational app designing tools</li></ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"><li>• Design two pages and navigate from one page to other one by adding interactivity.</li></ul>		<ul style="list-style-type: none"><li>• High speed Internet</li><li>• Printer</li></ul>	
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## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



### Module: 0613-S&AD&A-20. Design Mock-ups for Game Applications

**Objective:** After the completion of this module, the Trainee will be able to develop skill and competence required to Design wireframe and Mock-ups for Game Applications

**Duration:** 30 Hours

**Theory:** 06 Hours

**Practice:** 24 Hours

**Credit Hours:** 03

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU1.</b>  Design Wireframe	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Search for the best available tools for designing a wireframe.</li> <li>Download and install the tools</li> <li>Design the wireframe of the product.</li> </ul>	<b>Knowledge Based Questions</b> <ul style="list-style-type: none"> <li>Explore different open source wireframing and mockup designing tools.</li> <li>Explain the tools setup process including font's and plugins setups.</li> <li>Describe different type of mock up or wire framing work flow.</li> </ul>	<b>Theory-</b> 0.5 Hour  <b>Practical-</b> 3 Hours  <b>Total-Hours</b> 3.5	<ul style="list-style-type: none"> <li>Desktop computer or laptop</li> <li>All popular and best in use wireframe and mock-up designing tools</li> <li>Search engine</li> </ul>	Computer Lab/Class room



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		<p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>Download and add the custom font's in your designing tool.</li> </ul>		<ul style="list-style-type: none"> <li>High speed Internet</li> <li>Printer</li> </ul>	
<p><b>LU2.</b></p> <p>Organize Information Architecture</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Organize website content on game applications such as information for the product on which website is being designed.</li> <li>Put information in logical and hierarchical manner.</li> </ul>	<p><b>Knowledge Based Questions</b></p> <ul style="list-style-type: none"> <li>Explain the different approaches for designing mockups e.g. Web first Games and Mobile first. Games</li> <li>Explain multiple approaches by gathering the domain knowledge for designing the wire frames.</li> </ul>	<p><b>Theory-</b> 0.5 Hour</p> <p><b>Practical-</b> 3 Hours</p> <p><b>Total-</b> 3.5 Hours</p>	<ul style="list-style-type: none"> <li>Desktop computer or laptop</li> <li>All popular and best in use wireframe and mock-up designing tools</li> <li>Search engine</li> <li>High speed Internet</li> </ul>	<p>Computer Lab/Class room</p>



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



		<ul style="list-style-type: none"> <li>Describe the project workflow architecture.</li> </ul> <p><b>Practical Activity:</b></p> <ul style="list-style-type: none"> <li>Create layouts to validate the mobile screen size wireframe.</li> </ul>		<ul style="list-style-type: none"> <li>Printer</li> </ul>	
<p><b>LU3.</b></p> <p>Enhance User Experience</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Draft the information for better user interaction.</li> <li>Place the information or content for easy navigation.</li> </ul>	<p><b>Knowledge Based Questions</b></p> <ul style="list-style-type: none"> <li>Explain the navigational app design</li> <li>Explain the different techniques to gather and display the relevant information of layouts.</li> </ul> <p><b>Practical Activity:</b></p>	<p><b>Theory-</b> 0.5 Hour</p> <p><b>Practical-</b> 3 Hours</p> <p><b>Total-</b> 3.5 Hours</p>	<ul style="list-style-type: none"> <li>Desktop computer or laptop</li> <li>All popular and best in use wireframe and mock-up designing tools</li> <li>Search engine</li> </ul>	<p>Computer Lab/Class room</p>



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



		<ul style="list-style-type: none"> <li>• Create a simple Layout for game homepage</li> </ul>		<ul style="list-style-type: none"> <li>• High speed Internet</li> <li>• Printer</li> </ul>	
<p><b>LU 4.</b></p> <p>Arrange Visual Hierarchy (Layout)</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Design all elements in order on game applications.</li> <li>• Put all elements (content) on game applications properly according to their sizes.</li> <li>• Organize everything on game applications appropriately by positioning them and providing them well needed space.</li> </ul>	<p><b>Knowledge Based Questions</b></p> <ul style="list-style-type: none"> <li>• Describe the UI consistency.</li> <li>• Describe the paddings and margins etween layout elements.</li> <li>• Explain the different types of spacing units used in graphics designing tool.</li> </ul> <p><b>Practical Activity:</b></p> <p>Add label and textbox field with 1rem margin and 1px margin and log the difference between both results</p>	<p><b>Theory-</b> 0.5 Hour</p> <p><b>Practical-</b> 3 Hours</p> <p><b>Total-</b> 3.5 Hours</p>	<ul style="list-style-type: none"> <li>• Desktop computer or laptop</li> <li>• All popular and best in use wireframe and mock-up designing tools</li> <li>• Search engine</li> <li>• High speed Internet</li> <li>• Printer</li> </ul>	<p>Computer Lab/Class room</p>



## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



<p><b>LU 5.</b></p> <p>Select an Attractive Color Scheme</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Select the color scheme to be used on game applications according to the requirement.</li> <li>• Choose those colors in a style that become interactive and attention-grabbing for the viewers.</li> <li>• Arrange it in a manner that will be used in the final product.</li> </ul>	<p><b>Knowledge Based Questions</b></p> <ul style="list-style-type: none"> <li>• Explain color theory</li> <li>• Understanding different Color Scheme according to project requirement</li> <li>• Gather client requirement for color scheme</li> </ul> <p><b><u>Practical Activity:</u></b> Design an eye catching 2D Character</p>	<p><b>Theory- 1 Hour</b> <b>Practical- 3 Hours</b> <b>Total- 4 Hours</b></p>	<ul style="list-style-type: none"> <li>• Desktop computer or laptop</li> <li>• All popular and best in use wireframe and mock-up designing tools</li> <li>• Search engine</li> <li>• High speed Internet</li> <li>• Printer</li> </ul>	<p>Computer Lab/Class room</p>
<p><b>LU 6.</b></p> <p>Place Typography in Design</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Collect the fonts with their types and sizes.</li> <li>• Make the fonts (text) bold and un-bold accordingly.</li> <li>• Adjust the text into the design to make it appealing for the viewers.</li> </ul>	<p><b>Knowledge Based Questions</b></p> <ul style="list-style-type: none"> <li>• Explain different fonts design.</li> </ul>	<p><b>Theory- 1 Hour</b> <b>Practical- 3 Hours</b> <b>Total- 4 Hours</b></p>	<ul style="list-style-type: none"> <li>• Desktop computer or laptop</li> <li>• All popular and best in use wireframe and</li> </ul>	<p>Computer Lab/Class room</p>



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	<ul style="list-style-type: none"> <li>• Arrange it in a manner that will be used in the final product.</li> </ul>	<ul style="list-style-type: none"> <li>• Describe the Font weight and font family in designing tools.</li> <li>• Explain the user friendly fonts.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>• Import the Nasalization font into your sample project and change its font weight to 600 and font size 16px</li> </ul>		<p>mock-up designing tools</p> <ul style="list-style-type: none"> <li>• Search engine</li> <li>• High speed Internet</li> <li>• Printer</li> </ul>	
<p><b>LU 7.</b></p> <p>Arrange Images</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Collect and use SVG images to use in the mock-up which mirror exactly the ones to be used in final product.</li> </ul>	<p><b>Knowledge Based Questions</b></p> <ul style="list-style-type: none"> <li>• Explain different resolutions for designing the mockups.</li> </ul>	<p><b>Theory- 1 Hour</b></p> <p><b>Practical- 3 Hours</b></p> <p><b>Total- 4 Hours</b></p>	<ul style="list-style-type: none"> <li>• Desktop computer or laptop</li> <li>• All popular and best in use</li> </ul>	<p>Computer Lab/Class room</p>



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	<ul style="list-style-type: none"> <li>Collect and use high quality images (other than SVG) to use in the mock-up which mirror exactly the ones to be used in final product.</li> </ul>	<ul style="list-style-type: none"> <li>Explain the importance of SVG's</li> <li>Describe multiple techniques to retain the image aspect ratio</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>Create and Design a score board</li> </ul>		<ul style="list-style-type: none"> <li>wireframe and mock-up designing tools</li> <li>Search engine</li> <li>High speed Internet</li> <li>Printer</li> </ul>	
<p><b>LU 8.</b></p> <p>Make Interactive and Clickable</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Make your mock-up game applications interactive.</li> <li>Make your navigation clickable for best user testing.</li> </ul>	<p><b>Knowledge Based Questions</b></p> <ul style="list-style-type: none"> <li>Explain the different techniques of interactivity.</li> <li>Explain the navigational app design</li> </ul>	<p><b>Theory- 1 Hour</b></p> <p><b>Practical- 3 Hours</b></p> <p><b>Total- 4 Hours</b></p>	<ul style="list-style-type: none"> <li>Desktop computer or laptop</li> <li>All popular and best in use wireframe and mock-up designing tools</li> </ul>	<p>Computer Lab/Class room</p>



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		<ul style="list-style-type: none"><li>• Explore the different navigational app designing tools</li></ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"><li>• Design two layouts, (Settings scene and Score board scene) and navigate from setting page to score board layout.</li></ul>		<ul style="list-style-type: none"><li>• Search engine</li><li>• High speed Internet</li><li>• Printer</li></ul>	
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## National Vocational Certificate Level 2 for Mobile App, Web and Game Development



### Module: 0613-S&AD&A-21. Perform Image Slicing

**Objective:** After the completion of this module, the Trainee will be able to develop skill and competence required to perform image slicing

**Duration:** 15 Hours

**Theory:** 03 Hours

**Practice:** 12 Hours

**Credit Hours:** 1.5

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU1.</b>  Divide the image into smaller images	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Select the image(s) for slicing</li> <li>Plan the slicing as per requirement</li> <li>Select the slicing tool (e.g. Firework, photoshop etc.)</li> </ul>	<u><b>Knowledge Based Questions</b></u> <ul style="list-style-type: none"> <li>Explain the image slicing and method of exporting</li> <li>Describe different slicing tools.</li> <li>Define the commonly used naming convention.</li> </ul> <u><b>Practical Activity:</b></u>	<b>Theory-</b> 2 Hours <b>Practical-</b> 6 Hours <b>Total-</b> 8 Hours	<ul style="list-style-type: none"> <li>Desktop computer or laptop</li> <li>Slicing tools</li> <li>Search engine</li> <li>High speed Internet</li> </ul>	Computer Lab/Class room



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	<ul style="list-style-type: none"> <li>• Slice the image as per requirement</li> <li>• Save the sliced image with proper name in desired location</li> </ul>	<ul style="list-style-type: none"> <li>• Pick a complex image and slice each element of image.</li> </ul>			
<p><b>LU2.</b></p> <p>Prepare deliverable Sliced Images for Web Developer</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Arrange sliced images</li> <li>• Prepare html of sliced images</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Describe the use of slicing in html.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>• Write an html page and use the sliced images as per design requirement.</li> </ul>	<p><b>Theory-</b> 1 Hour</p> <p><b>Practical-</b> 6 Hours</p> <p><b>Total-</b> 7 Hours</p>	<ul style="list-style-type: none"> <li>• Desktop computer or laptop</li> <li>• Slicing tools</li> <li>• Search engine</li> <li>• High speed Internet</li> </ul>	<p>Computer Lab/Class room</p>



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### Module: 0613-S&AD&A22. Carry out brand campaigns

**Objective:** After the completion of this module, the Trainee will be able to develop skill and competence required to carry out brand campaigns.

**Duration:** 40 Hours

**Theory:** 10 Hours

**Practice:** 30 Hours

**Credit Hours:** 4

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU1.</b> Design Campaign Theme	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Select the color scheme</li> <li>Select Typograhly (font, size etc.)</li> <li>Finalize campaign design theme</li> </ul>	<u><b>Knowledge Based Questions</b></u> <ul style="list-style-type: none"> <li>Explain user friendly font designs and themes for brands campaigning.</li> </ul> <u><b>Practical Activity:</b></u> <ul style="list-style-type: none"> <li>Describe different pillars of typography.</li> </ul>	<b>Theory-</b> 2 Hours <b>Practical-</b> 6 Hours <b>Total-</b> 8 Hours	<ul style="list-style-type: none"> <li>Desktop computer or laptop</li> <li>Designing tools</li> <li>Search engine</li> <li>Internet</li> </ul>	Computer Lab/Class room



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<p><b>LU2.</b></p> <p>Design Pop-Ups and Banners</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Create a design for the pop-up of the given size</li> <li>• Design Banners of different sizes for website, mobile application, facebook and google campaigns.</li> <li>• Use simple and easy text into design.</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Explain the modal windows and dialogs..</li> <li>• Explain the different size on banners, used in social networking platform for campaigning.</li> <li>• Describe the way of transforming the text into attractive images.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>• Design a linkedin banner that meets the linkedin requirements.</li> </ul>	<p><b>Theory- 3 Hours</b></p> <p><b>Practical- 6 Hours</b></p> <p><b>Total- 9 Hours</b></p>	<ul style="list-style-type: none"> <li>• Desktop computer or laptop</li> <li>• Designing tools</li> <li>• Search engine</li> <li>• Internet</li> </ul>	<p>Computer Lab/Class room</p>



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<p><b>LU3.</b></p> <p>Make Campaigns More Inviting</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Use illustrations and images to highlight the product/service.</li> <li>• Create graphics to convey your information.</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Explain the illustration process.</li> <li>• Describe the difference between vector image and raster image.</li> <li>• Define the techniques of transforming your thoughts to visual form.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>• Design a banner of weekly electronic deals.</li> </ul>	<p><b>Theory- 2 Hours</b></p> <p><b>Practical- 9 Hours</b></p> <p><b>Total- 11 Hours</b></p>	<ul style="list-style-type: none"> <li>• Desktop computer or laptop</li> <li>• Designing tools</li> <li>• Search engine</li> <li>• Internet</li> </ul>	<p>Computer Lab/Class room</p>



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<p><b>LU 4.</b></p> <p>Design Appealing and Catchy Infographics</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Gather the complete requirements for infographic design</li> <li>• Create a visual content as per requirements</li> <li>• Use visual contents in design</li> <li>• Design in a way that it conveys your message properly</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Explain the info-graphics design.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>• Create a driving test info-graphic banner.</li> </ul>	<p><b>Theory- 3</b></p> <p><b>Practical- 9</b></p> <p><b>Total- 12</b></p>	<ul style="list-style-type: none"> <li>• Desktop computer or laptop</li> <li>• Designing tools</li> <li>• Search engine</li> <li>• Internet</li> </ul>	<p>Computer Lab/Class room</p>
<p><b>LU 5.</b></p> <p>Design Attractive Stories for social media</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Gather requirement for social media stories from the customers</li> <li>• Create a strong design for social media with most engaging stories and gripping images of the product/services.</li> <li>• Design moving/animated images to share on</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Explain the techniques of story board designing.</li> <li>• Define the animation and key framing in different designing tools.</li> </ul> <p><b><u>Practical Activity:</u></b></p>		<ul style="list-style-type: none"> <li>• Desktop computer or laptop</li> <li>• Designing tools</li> <li>• Search engine</li> <li>• Internet</li> </ul>	<p>Computer Lab/Class room</p>



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	Instagram and Facebook stories.	<ul style="list-style-type: none"><li>• Create a 2d character animation and export it into gif format</li></ul>			
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### Module: 0613-S&AD&A-23. Maintain occupational health and safety

**Objective:** After the completion of this module, the Trainee will be able to develop skill and competence required to maintain occupational health and safety

Duration: 20 Hours

Theory: 05 Hours

Practice: 15 Hours

Credit Hours: 02

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU1.</b>  Maintain First-aid Box	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>• Ensure availability of first aid box</li> <li>• Check first aid box for requisite emergency</li> <li>• Check expiry of medicines</li> <li>• Perform first aid treatment against electric shocks</li> </ul>	<u><b>Knowledge Based Questions</b></u> <ul style="list-style-type: none"> <li>• Define safety in work environment</li> <li>• Describe the importance keep check on expiry dates</li> <li>• Elaborate the concept</li> <li>• Of first aid.</li> </ul> <u><b>Practical Activity:</b></u>	<b>Theory-</b> 30 Minutes  <b>Practical-</b> 02 Hours  <b>Total-</b> 2.5 Hours	<ul style="list-style-type: none"> <li>• First Aid Box</li> <li>• First Aid Kit</li> <li>• Stretcher</li> <li>• Fire Buckets</li> <li>• Fire Extinguisher</li> <li>• Emergency Alarm/Bell</li> <li>• Emergency response Plan</li> </ul>	Lab,  Workshop



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	<ul style="list-style-type: none"> <li>Perform first aid treatment/bandages against minor injuries.</li> </ul>	Prepare list of necessary equipment of first aid box and it arrange properly		<ul style="list-style-type: none"> <li>Fall Protection Plan</li> </ul>	
<b>LU2.</b> Maintain Fire Extinguisher	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Check expiry of fire extinguisher</li> <li>Operate fire extinguisher</li> <li>Replace fire extinguisher</li> <li>Ensure that the fire brigade is at stand by(for major emergency)</li> </ul>	<b><u>Knowledge Based Questions</u></b> <ul style="list-style-type: none"> <li>Explain fire hazards</li> <li>Enlist 03 safety measures against fire hazards</li> <li>Describe importance of fire extinguishers for fire fighting</li> </ul> <b><u>Practical Activity:</u></b> Operate fire extinguisher	<b>Theory-</b> 45 Minutes <b>Practical-</b> 02 Hours <b>Total-</b> 2 Hours 45 Minutes	<ul style="list-style-type: none"> <li>First Aid Box</li> <li>First Aid Kit</li> <li>Stretcher</li> <li>Fire Buckets</li> <li>Fire Extinguisher</li> <li>Emergency Alarm/Bell</li> <li>Emergency response Plan</li> <li>Fall Protection Plan</li> </ul>	Lab, Workshop



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<p><b>LU3.</b></p> <p><b>Ensure Safeguard of Machines</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Maintain radiator shield</li> <li>• Maintain alternator fan shield</li> <li>• Maintain heat resister material on silencer</li> <li>• Cover main circuit breaker</li> <li>• Lock canopy doors</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define machine safety</li> <li>• Describe the function of radiator shield</li> <li>• Describe the function of alternator fan</li> <li>• Importance of maintaining heat while machine is in operation</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Check and cover main circuit breaker to assure safety</p>	<p><b>Theory-</b> 45 Minutes</p> <p><b>Practical-</b> 02 Hours</p> <p><b>Total-</b> 2 Hours 45 Minutes</p>	<ul style="list-style-type: none"> <li>• First Aid Box</li> <li>• First Aid Kit</li> <li>• Stretcher</li> <li>• Fire Buckets</li> <li>• Fire Extinguisher</li> <li>• Emergency Alarm/Bell</li> <li>• Emergency response Plan</li> <li>• Fall Protection Plan</li> </ul>	<p>Lab, Workshop</p>
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<p><b>LU 4.</b></p> <p><b>Adopt company policies and procedures</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Ensure company's safety policy</li> <li>• Adopt company safety procedure</li> <li>• Advocate worker with company safety policy</li> <li>• Implement Safety sign board as per standard</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define safety policy</li> <li>• Importance of understanding the safety policy</li> <li>• Responsible persons to implement safety policy</li> <li>• Practical Activity:</li> <li>• Erect/Display safety sign board for fire hazards</li> </ul>	<p><b>Theory-</b> 45 Minutes</p> <p><b>Practical-</b> 2.5 Hours</p> <p><b>Total-</b> 3 Hours 15 Minutes</p>	<ul style="list-style-type: none"> <li>• First Aid Box</li> <li>• First Aid Kit</li> <li>• Stretcher</li> <li>• Fire Buckets</li> <li>• Fire Extinguisher</li> <li>• Emergency Alarm/Bell</li> <li>• Emergency response Plan</li> <li>• Fall Protection Plan</li> </ul>	<p>Lab, Workshop</p>
<p><b>LU 5.</b></p> <p><b>Attain health &amp; safety training</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Take required health and safety training</li> <li>• Implement work hazardous material information system (WHMIS)</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define CPR</li> <li>• Elaborate WHMIS</li> <li>• Explain hazardous material</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>• Demonstrate CPR process</li> </ul>	<p><b>Theory-</b> 45 Minutes</p> <p><b>Practical-</b> 02 Hours</p> <p><b>Total-</b> 2 Hours 45 Minutes</p>	<ul style="list-style-type: none"> <li>• First Aid Box</li> <li>• First Aid Kit</li> <li>• Stretcher</li> <li>• Fire Buckets</li> <li>• Fire Extinguisher</li> <li>• Emergency Alarm/Bell</li> </ul>	<p>Lab, Workshop</p>



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	<ul style="list-style-type: none"> <li>Adopt first aid cardio respiratory, resuscitation and CPR</li> </ul>			<ul style="list-style-type: none"> <li>Emergency response Plan</li> <li>Fall Protection Plan</li> </ul>	
<b>LU 6.</b>  <b>Prepare for emergencies</b>	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Take emergency response training</li> <li>Ensure practice of emergency exercises</li> <li>Check the emergency alarms</li> <li>Ensure regular practice of gathering the workers in assembly area during the emergency.</li> </ul>	<u><b>Knowledge Based Questions</b></u> <ul style="list-style-type: none"> <li>Importance of providing assembly area for workers</li> <li>Benefits of providing assembly area</li> </ul> <u><b>Practical Activity:</b></u>  Demonstrate the process of calling workers to assembly area	<b>Theory-</b> 45 Minutes  <b>Practical-</b> 02 Hours  <b>Total-</b> 2 Hours 45 Minutes	<ul style="list-style-type: none"> <li>First Aid Box</li> <li>First Aid Kit</li> <li>Stretcher</li> <li>Fire Buckets</li> <li>Fire Extinguisher</li> <li>Emergency Alarm/Bell</li> <li>Emergency response Plan</li> <li>Fall Protection Plan</li> </ul>	Lab, Workshop



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<p><b>LU 7.</b></p> <p><b>Respond to emergencies</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Follow emergency plan</li> <li>• Communicate instructions to co workers</li> <li>• Assess risk and determine course of action</li> <li>• Operate emergency equipment and supplies</li> <li>• Ensure that the ambulance is at stand by(for emergency)</li> </ul>	<p><b><u>Knowledge Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Explain the importance of effective communication with the workers</li> <li>• Describe the importance of emergency plan</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Prepare an emergency plan for exit</p>	<p><b>Theory-</b> 45 Minutes</p> <p><b>Practical-</b> 2.5 Hours</p> <p><b>Total-</b> 3 Hours 15 Minutes</p>	<ul style="list-style-type: none"> <li>• First Aid Box</li> <li>• First Aid Kit</li> <li>• Stretcher</li> <li>• Fire Buckets</li> <li>• Fire Extinguisher</li> <li>• Emergency Alarm/Bell</li> <li>• Emergency response Plan</li> <li>• Fall Protection Plan</li> </ul>	<p>Lab, Workshop</p>
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### Module: 0613-S&AD&A-24. Maintain good health while using Computer/Digital devices at work

**Objective:** After the completion of this module, the Trainee will be able to develop skill and competence required to maintain good health while using Computer/Digital devices at work

**Duration:** 15 Hours

**Theory:** 03 Hours

**Practice:** 12 Hours

**Credit Hours:** 1.5

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU1.</b>  Avoid Eye Strain and Headaches	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Reposition the screen to avoid glare from lights or windows.</li> <li>Keep the screen clean and use a desk lamp to make it easier to see.</li> <li>Ensure the screen colors are easy to look at, and that the characters are sharp and legible.</li> <li>Look away from the screen into the distance</li> </ul>	<u><b>Knowledge Based Questions</b></u> <ul style="list-style-type: none"> <li>Explain the importance of right sitting position while working with desktop computer</li> <li>Explain the need of right color contrast for screen</li> <li>Why taking breaks is important to maintain focus.</li> </ul> <u><b>Practical Activity:</b></u>	<b>Theory-</b> 1.5 Hours  <b>Practical-</b> 06 Hours  <b>Total-</b> 7.5 Hours	<ul style="list-style-type: none"> <li>Laptop / Desktop Computer</li> <li>Cleaning Cloth/Tissue</li> </ul>	Lab,  Workshop



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	for a few moments to relax your eyes(e.g. focus on something 30 meters away for 30 seconds every 30 minutes)	Set screen contrast according to your ease			
<b>LU2.</b>  Maintain good posture	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>• Maintain a straight sitting posture</li> <li>• Stand up and walk around every hour or so, so that you're not sat in the same position all day.</li> <li>• Slowly lean your torso over to one side of the chair and then the other to stretch your sides and spine.</li> <li>• Stand up and put your hands together, elbows out, then slowly twist to the left and then to the right.</li> </ul>	<b><u>Knowledge Based Questions</u></b> <ul style="list-style-type: none"> <li>• Define posture in terms of working with computer</li> <li>• Explain benefits of short exercises during the work</li> </ul> <b><u>Practical Activity:</u></b>  Demonstrate the correct sitting position while working in front of desktop computer	          <b>Theory- 1.5 Hours</b>  <b>Practical- 06 Hours</b>  <b>Total- 7.5 Hours</b>	<ul style="list-style-type: none"> <li>• Laptop / Desktop Computer</li> <li>• Cleaning Cloth/Tissue</li> </ul>	Lab,  Workshop



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### Members of Curriculum Development Meeting:

S#	Name	Designation
1.	Hamza Nadeem	NAVTTTC Coordinator Islamabad
2.	Mr Aijaz Ahmed Zia	DACUM Expert, Lahore
3.	Ms. Tayyaba Amin	Sr. Instructor CIT, PGA, Lahore Representative P-TEVTA
4.	Muhammad Tahir Shafi	Advance Web Instructor KICS-UET Lahore
5.	Mr. Fawad Ali	Android Application Developer Mobi Droid Technologies, Lahore
6.	Syeda Farah Rehman	Sr. Instructor IT, GTTI Gulberg Lahore Representative P-TEVTA



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7.	Ms. Anam Yaseen	CBT&A Assessor, GCU Faisalabad
8.	Ms. Javeria Qazi	Web administrator, Representative PBTE
9.	Mr. Shadab Ali	Assistant Professor, KP TEVTA
10.	Mr. Talat Saeed	Instructor Computer Science, Representative S-TEVTA
11.	Mr. Adeel Abbas	Team Lead, Fast University (Research Lab) Islamabad
12.	Mr. Rehan Ahmad	Assistant Professor, UOL Lahore
13.	Dr. Muhammad Hamid	Asstt Professor, IT department UVAS Lahore



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14.	Mr. Mubasher Ali	Sr. Software Engineer, ARTICARE Islamabad
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