Government of Pakistan

National Vocational and Technical Training Commission

Prime Minister's Hunarmand Pakistan Program

"Skill for All"

Course Contents / Lesson Plan

Course Title: Certificate in IT (Web, Software & Mobile Application Development)

Duration: 6 Months

Course Details / Description & Preliminaries

Course Title	**Certificate in IT (Web, Software & Mobile Application Development)**
Objectives and Expectations	**Employable skills and hands on practice for Web, software and Mobile Application Development** This is a special course designed to address unemployment in the youth. The course aims to achieve the above objective through hands on practical training delivery by a team of dedicated professionals having rich market/work experience. This course is therefore not just for developing a theoretical understanding/back ground of the trainees. Contrary to that it is primarily aimed at equipping the trainees to perform commercially in a market space in independent capacity or as a member of a team. The course therefore is designed to impart not only technical skills but also soft skills (i.e interpersonal/communication skills; personal grooming of the trainees etc) as well as entrepreneurial skills (i.e marketing skills; free lancing etc). The course also seeks to inculcate work ethics to foster better citizenship in general and improve the image of Pakistani work force in particular. **Main Expectations:** In short, the course under reference should be delivered by professional instructors in such a robust hands- on manner that the trainees are comfortably able to employ their skills for earning money (through wage/self-employment) at its conclusion. This course thus clearly goes beyond the domain of the traditional training practices in vogue and underscores an expectation that a market centric approach will be adopted as the main driving force while delivering it. The instructors should therefore be experienced enough to be able to identify the training needs for the possible market roles available out there. Moreover,

they should also know the strengths and weaknesses of each individual trainee to prepare them for such market roles during/after the training.

i. Specially designed practical tasks to be performed by the trainees have been included in the Annexure-I to this document. The record of all tasks performed individually or in groups must be preserved by the management of the training Institute clearly labeling name, trade, session etc so that these are ready to be physically inspected/verified through monitoring visits from time to time. The weekly distribution of tasks has also been indicated in the weekly lesson plan given in this document.

ii. In order to materialize the main expectations, a special module on **Job Search & Entrepreneurial Skills** has been included in the later part of this course (5th & 6th month) through which, the trainees will be made aware of the Job search techniques in the local as well as international job markets (Gulf countries). Awareness around the visa process and immigration laws of the most favoured labour destination countries also forms a part of this module. Moreover, the trainees would also be encouraged to venture into self-employment and exposed to the main requirements in this regard. It is also expected that a sense of civic duties/roles and responsibilities will also be inculcated in the trainees to make them responsible citizens of the country.

iii. A module on **Work Place Ethics** has also been included to highlight the importance of good and positive behavior at work place in the line with the best practices elsewhere in the world. An outline of such qualities has been given in the Appendix to this document. Its importance should be conveyed in a format that is attractive and interesting for the trainees such as through PPT slides +short video documentaries. Needless to say that if the training provider puts his heart and soul into these otherwise non-

technical components, the image of Pakistani workforce would undergo a positive transformation in the local as well as international job markets.

In order to maintain interest and motivation of the trainees throughout the course, modern techniques such as:

- Motivational Lectures
- Success Stories
- Case Studies

These techniques would be employed as an additional training tool wherever possible (these are explained in the subsequent section on Training Methodology).

Lastly, evaluation of the competencies acquired by the trainees will be done objectively at various stages of the training and proper record of the same will be maintained. Suffice to say that for such evaluations, practical tasks would be designed by the training providers to gauge the problem solving abilities of the trainees.

(i) Motivational Lectures

The proposed methodology for the training under reference employs motivation as a tool. Hence besides the purely technical content, a trainer is required to include elements of motivation in his/her lecture. To inspire the trainees to utilize the training opportunity to the full and strive towards professional excellence. Motivational lectures may also include general topics such as the importance of moral values and civic role & responsibilities as a Pakistani. A motivational lecture should be delivered with enough zeal to produce a deep impact on the trainees. It may comprise of the following:

- Clear Purpose to convey message to trainees effectively.
- Personal Story to quote as an example to follow.
- Trainees Fit so that the situation is actionable by trainees and not represent a just idealism.

- Ending Points to persuade the trainees on changing themselves.

  A good motivational lecture should help drive creativity, curiosity and spark the desire needed for trainees to want to learn more.

Impact of a successful motivational strategy is amongst others commonly visible in increased class participation ratios. It increases the trainees' willingness to be engaged on the practical tasks for longer time without boredom and loss of interest because they can clearly see in their mind's eye where their hard work would take them in short (1-3 years); medium (3 - 10 years) and long term (more than 10 years).

As this tool is expected that the training providers would make arrangements for regular well planned motivational lectures as part of a coordinated strategy interspersed throughout the training period as suggested in the weekly lesson plans in this document.

(ii)   Success Stories

Another effective way of motivating the trainees is by means of Success Stories. Its inclusion in the weekly lesson plan at regular intervals has been recommended till the end of the training.

A success story may be disseminated orally, through a presentation or by means of a video/documentary of someone that has risen to fortune, acclaim, or brilliant achievement. A success story shows how a person achieved his goal through hard work, dedication and devotion. An inspiring success story contains compelling and significant facts articulated clearly and easily comprehendible words. Moreover, it is helpful if it is assumed that the reader/listener knows nothing of what is being revealed.   Optimum impact is created when the story is revealed in the form of:-

- Directly in person (At least 2-3 cases must be arranged by the training institute)
- Through an audio/ videotaped message (2-3 high quality videos must be arranged by the training institute)

It is expected that the training provider would collect relevant high quality

success stories for inclusion in the training as suggested in the weekly lesson plan given in this document.

Suggestive structure and sequence of a sample success story and its various shapes can be seen at annexure III.

(iii)   Case Studies

Where a situation allows, case studies can also be presented to the trainees to widen their understanding of the real life specific problem/situation and to explore the solutions.

In simple terms, the case study method of teaching uses a real life case example/a typical case to demonstrate a phenomenon in action and explain theoretical as well as practical aspects of the knowledge related to the same. It is an effective way to help the trainees comprehend in depth both the theoretical and practical aspects of the complex phenomenon in depth with ease. Case teaching can also stimulate the trainees to participate in discussions and thereby boost their confidence. It also makes class room atmosphere interesting thus maintaining the trainee interest in training till the end of the course.

Depending on suitability to the trade, the weekly lesson plan in this document may suggest case studies to be presented to the trainees. The trainer may adopt a power point presentation or video format for such case studies whichever is deemed suitable but it's important that only those cases are selected that are relevant and of a learning value.

The Trainees should be required and supervised to carefully analyze the cases.

For the purpose they must be encouraged to inquire and collect specific information / data, actively participate in the discussions and intended solutions of the problem / situation.

Case studies can be implemented in the following ways: -

     i.   A good quality trade specific documentary (At least 2-3 documentaries must be arranged by the training institute)

	ii. Health &Safety case studies (2 cases regarding safety and industrial accidents must be arranged by the training institute) iii. Field visits(At least one visit to a trade specific major industry/ site must be arranged by the training institute)
Entry level of trainees	Since intake level is Bachelor of Computer Science (BCS) / B.Sc (Computer Science) so expectations from the trainees are: • To have knowledge of Programming Concepts • To have studied languages such as C, C++, JAVA,C#.net • To have concept of Computer system
Learning Outcome of the Course	By the end of this course, the trainees should gain the following competencies: • Understanding of programming techniques • Design and structure of android based application databases • Design and structure of web-based applications • Design and coding skills • Integration with API'S • Problems Solving Skills • Threading • Web Based android application • Understanding of Graphics • Designing and structure • Texturing • Rigging • Editing • Drawing • Movements • Modeling
Course Execution Plan	Total Duration of Course: 6 Months (26 Weeks)
	Class Hours: 4 Hours per day (06 Days/Week)
	Theory: 20% Practical: 80%
	Weekly Hours: 24 Hours Per week
	Total Contact Hours: 600 Hours

Companies Offering Jobs in the respective trade	1. Upwork 2. Freelancing 3. Fiverr 4. Government Institutes 5. Software Houses 6. Crossover 7. All Private Institutes who are managing software's
Job Opportunities	All over the world there is a high demand in the Information Technology industry for developers in various fields such as mobile application development, web development and graphic designing. Smartphone have brought about revolution; Animation technology has come a long way since the early days of hand-drawn cartoons. Nowadays you will find websites and apps on everything. This increase in usage of websites, apps android smart devices has created new opportunities for all to earn big and make a career out of this field. With the help of this course, we will be able to give technical trainings of Information Technology to our youth. There are also opportunities for start-up/entrepreneurship due to the high market demand for the following designated jobs; • Software Engineers • Mobile App Developers • DBAs • Web Developers • Network Administrator • IT Support Officer • Manager / Assistant Manager IT
No of Students	25
Learning Place	Classroom / Lab
Instructional Resources	Development Platform: • https://github.com/ , • https://firebase.google.com/, • https://developer.android.com/studio, • https://visualstudio.microsoft.com/, • https://getbootstrap.com/https://laravel.com/, • https://jquery.com/ • https://www.oracle.com/index.html, https://flutter.dev/doc Learning Material: • https://www.w3schools.com/ • https://deitel.com/other-books/ • https://angularjs.org/ • https://www.youtube.com/c/fukatsoft1 • http://learnopenerp.blogspot.com/

WEEKLY SCHEDULE OF TRAINING

Scheduled Week	Module Title	Learning Units	Remarks
Week 1	Introduction Internet, Email	• Course introduction • Application of course • Motivational Lecture(*For further detail please see Page No: 4)* • Internet and its impacts on our daily life • Advantages &disadvantages of the internet • Internet browsing • Uploading • Downloading • Email handling • Workplace ethics *(See details at annexure II)*	• **Home Assignment**
Week 2	Introduction to Web, Web Browsers, Scripting Language	• Basic Terminologies of the Web • Web Browser • Web Server • Website • Scripts • Applets • Activex Controls • Web Pages Types • Scripting Languages • Success story (*For further detail please see Page No: 5 and Annexure-III at the end)*	• **Home Assignment**
Week 3	BASIC HTML TAGS	• Motivational Lecture(*For further detail please see Page No: 4)* • HTML • Head • Title • Body • How to use html tags • Heading • Paragraph • Line break • Horizontal rule • Bold • Italic • Underline • Teletype text • Big • Small	• **Task – 1** • **Task – 2** • **Task – 3** • **Task – 4** • **Task – 5** • **Task – 6** • **Task – 7** *Details may be seen at Annexure-I*

		• Emphasis • Citation • Strong • Lists • Including comment in html document • Including an external file in document • Image • Linking to local files • E-mail • Bgsound • Embed • Hyper graphics	• **Home Assignment**
Week 4	BASIC HTML TAGS	• Success story (*For further detail please see Page No: 5 and Annexure-III at the end*) • Preformat • Special characters • Html escape sequences • Extra spaces • <mark>Hex-dec & color basics</mark> • Blink • Marquee • <mark>Font</mark> • Superscripts and subscripts • Tables • Meta • <mark>Frames</mark> • <mark>Floating frames</mark> • Adding forms to web page • Menu select • Text input element • Password input element • Text area input element • Radio buttons • Check boxes • Submit and reset buttons • Button • Workplace ethics (See details at annexure II)	• **Task – 8** • **Task – 9** • **Task – 10** • **Task – 11** • **Task – 12** • **Task – 13** • **Task – 14** • **Task – 15** • **Task – 16** • **Task – 17** • **Task – 18** (*Details may be seen at Annexure-I*) • **Monthly Test 1**
Week 5	Web Development Part 2: Cascading Style Sheets	• Motivational Lecture(*For further detail please see Page No: 4)* • DHTML • Attributes of font • Attributes of background • Attributes of text	• **Task – 19** • **Task – 20** • **Task – 21**

		• Atributes of margin • Attributes of border • Style sheets • Events used in DHTML • Workplace ethics (See Workplace Ethics Guide at Appendix-B)	• **Task – 22** *Details may be seen at Annexure-I*
Week 6	Bootstrap	• Success story (*For further detail please see Page No: 5 and Annexure-III at the end*) • Introduction to Bootstrap4 • BS Grid Basic • BS Typography • BS Tables • BS Images • BS Jumbotron • BS Alerts • BS Buttons • BS Pagination • BS List Groups • BS Dropdowns • BS Collapse • BS Tabs/Pills • BS Navbar • BS Forms • BS Inputs • BS Carousel	• **Home Assignment**
Week 7	Web Development Part 3: JavaScript	• What is JavaScript? • Advantages of JavaScript • Limitations of JavaScript • JavaScript Development Tools • Syntax • JavaScript Outputs • Comments in JavaScript • Motivational Lecture(*For further detail please see Page No: 4)* • Variables • Data Types • Variable Scopes • Variable Names • Reserved Words • What is an Operator? • Arithmetic Operators • Comparison Operators • Logical Operators • Bitwise Operators • Assignment Operators	• **Task – 23** *(Details may be seen at Annexure-I* • **Home Assignment**

		• Miscellaneous Operators • Workplace ethics (See Workplace Ethics Guide at Appendix-B)	
Week 8	JavaScript Conditions, Loops	• If-Else Statement • Series of If-Else • The for Loop • While Loop • Do-While Loop • Switch case • Loop Control • Break Statement • Success story (*For further detail please see Page No: 5 and Annexure-III at the end*) • JQuery • The Continue Statement • Using Labels to Control the Flow • For-In Loop • Freelancing concepts, how to start, step by step process from account opening to taking orders and contract signing etc • Freelancing platforms • Tips for how to increase earning	• **Task – 24** • **Task – 25** • **Task – 26** *Details may be seen at Annexure-I* • **Home Assignment** • **Monthly Test 2**
Week 9	JavaScript Functions	• Motivational Lecture(*For further detail please see Page No: 4)* • Function • Nested Functions • Function () Constructor • Function Literals • Objects • User-Defined Objects • The new Operator • The Object () Constructor • Defining Methods for an Object • Errors and Exceptions • The try...catch Statement • The throw Statement • The onerror() Method • Workplace ethics *(See details at annexure II)*	• **Home Assignment**
Week 10	PHP	• What is PHP • Syntax Overview • Commenting PHP Code	• **Task – 27** • **Task – 28**

		• Variables	• **Task – 29**
		• Success story (*For further detail please see Page No: 5 and Annexure-III at the end)*	• **Task – 30**
		• Constants	• **Task – 31**
		• Differences between constants and variables	
		• Operators	• **Task – 32**
		• The If Statement	
		• The if. . . else Statement	• **Task – 33**
		• The if. . . elseif. . . else Statement	
		• The Switch Statement	**Task – 34**
		• PHP Loops	*Details may be seen at Annexure-I*
		• The for loop statement	
		• The while loop statement	
		• The do…while loop statement	
		• The for each loop statement	
		• The break statements	
Week 11	PHP + Database	• Motivational Lecture(*For further detail please see Page No: 4)*	• **Task – 35**
		• String Concatenation Operator	• **Task – 36**
		• Using the strlen() function	• **Task – 37**
		• Using the strpos() function	
		• Array	• **Task – 38**
		• PHP Functions	
		• PHP Function Arguments	*Details may be seen at Annexure-I*
		• DBMS	
		• What is MySQL?	
		• PHP + MySQL Database System	
		• Database Queries	
		• Facts About MySQL Database	
		• Should I Use MySQLi or PDO?	
		• MySQLi Installation	
		• PHP Create a MySQL Database7	
		• Create a MySQL Database Using MySQLi	
		• Create a MySQL Table Using MySQLi	
		• Insert Data Into MySQL Using MySQLi	
		• Get ID of The Last Inserted Record	
		• Insert Multiple Records Into MySQL Using MySQLi	
		• Select Data From a MySQL Database	
		• Select Data With MySQLi	

FVTLM004		• Delete Data From a MySQL Table Using MySQLi • Update Data In a MySQL Table Using MySQLi	
Week 12	Desktop Application Development Part 1: Object Oriented Programming	• Introduction to Software • Software Tools Introduction • Introduction to Compiler • Defining the Main Method • OOP • What is class • Attributes • Functions • Mapping real life objects. • OOP • (.) operator • What is object • Creating object. • Calling attributes and functions via object • Objects and Array of Objects • Storing Customers Data • Customer Model Class • Success story (*For further detail please see Page No: 5 and Annexure-III at the end*) • Generating Data • Printing Data • Sorting Data • Constructor • this vs super • Contractor Overloading • Destructor	• **Monthly Test 3**
Week 13	**Mid Term Examination**		
Week 14	Desktop Application Development Part 2: JAVA	• Review of trainees performance • Motivational Lecture(*For further detail please see Page No: 4)* • Inheritance • Parent Class • Child Class • Extends Keyword • Calling's parent properties • Calling's parent functions • Advantages of Inheritance • Polymorphism	• **Task – 39** *Details may be seen at Annexure-I*

		• Static Binding • Dynamic Binding • Advantages of polymorphism. • Complete OOP overview with Sample Project • Workplace ethics *(See details at annexure II)*	
Week 15	Desktop Application Development Part 2: JAVA	• The Java Virtual Machine • Installing JDK • Installing IDE • Variables and data types • Conditional and looping constructs • Arrays • Fields and Methods • Constructors • Overloading methods • Garbage collection • Nested classes • Overriding methods • Polymorphism • Making methods and classes final • Success story (*For further detail please see Page No: 5 and Annexure-III at the end*) • Abstract classes and methods • Interfaces • Configuring applets • Applet capabilities and restrictions • JAVA SWING graphical user interface	• **Task – 40** • **Task – 41** • **Task – 42** • **Task – 43** • **Task – 44** • **Task – 45** *Details may be seen at Annexure-I*
Week 16	Desktop Application Development Part 3: Database System (SQL Server)	• Motivational Lecture(*For further detail please see Page No: 4*) • Introduction • Basic Concepts and Definitions • Data • Data Versus Information • Metadata • Data Models • ENTITIES • RELATIONSHIPS • Relational Databases • Database Management Systems • Enhanced entity-relationship • (EER) model	• **Monthly Test 4**

		• Normalization • Data Manipulation Language(DML) • Data Control Language(DCL) • Transaction Control Language(TCL) • Workplace ethics *(See details at annexure II)*	
Week 17	DBMS	• SQL - Create Database • SQL - Drop Database • SQL - Select Database • SQL - Create Table • SQL - Drop Table • SQL - Insert Query • SQL - Select Query • SQL - Where Clause • SQL - AND & OR Clauses • SQL - Update Query • SQL - Delete Query • SQL - Like Clause • SQL - Top Clause • SQL - Order By • SQL - Group By • Freelancing sites and starting actual work been started • Success story (*For further detail please see Page No: 5 and Annexure-III at the end*)	• **Task – 46** *Details may be seen at Annexure-I*
Week 18	JDBC Job search	• Motivational Lecture(*For further detail please see Page No: 4)* • Java Database Connectivity • JDBC Product • Types of Drivers • Two-Tier Client/Server Model • Three-Tier Client/Server Model • Basic Steps of JDBC • Creating and Executing SQL Statement • The Result Set Object • Working with Database Metadata • Interface • Job market& job search • Job related skills. • Interpersonal skills • Communication skills	

Week 19	Mobile Application Development	• Basics of Android (Introduction to Android Studio) • Installing Android Studio. (Sdk) • Setting up emulator. Going through With Android Studio (Explanation of IDE). • Packages , API Levels • Success story (*For further detail please see Page No: 5 and Annexure-III at the end*) • Creating Hello World App In Android • Creating First App. • Resources folders. • Gradle (app level, project level). • Manifest File. • Intro To Layouts • Relative Layout • Linear Layout • Frame Layout	
Week 20	Tables Job search	• Motivational Lecture(*For further detail please see Page No: 4)* • Table Layout • Constraint Layout • ScrollView • Main Building Blocks (Part 1) • Activities • Activity lifecycle • Customize Back Press Button • Intents • Main Building Blocks (Part 2) • Launch Activity • Moving Between Activities • Transfer Data Between Activities • Activities Stack • Session on CV Building. • How to make notable CV. • Dos and Don'ts of CV making.	• **Task – 47** *Details may be seen at Annexure-I* • **Monthly Test 5**
Week 21	Business Development &	• Session on Self-Employment • How to start a Business. • Requirements (Capital, Physical etc)	• **Task – 48** *Details may be seen at Annexure-I*

	entrepreneurship	• Benefits/Advantages of self-employment	
	Employable Project/Assignment (6 weeks (i.e 21-26) in addition of regular classes.	• Guidelines to the Trainees for selection of students employable project like final year project (FYP) • Assign Independent project to each Trainee • A project based on trainee's aptitude and acquired skills. • Designed by keeping in view the emerging trends in the local market as well as across the globe. • The project idea may be based on Entrepreneurship. • Leading to the successful employment. • The duration of the project will be 6 weeks • Ideas may be generated via different sites such as: • https://1000projects.org/ • https://nevonprojects.com/ • https://www.freestudentprojects.com/ • https://technofizi.net/best-computer-science-and-engineering-cse-project-topics-ideas-for-students/ • Final viva/assessment will be conducted on project assignments. • At the end of session the project will be presented in skills competition • The skill competition will be conducted on zonal, regional and National level. • The project will be presented in front of Industrialists for commercialization	
Week 22	Views	• List View and Grid View • Simple List View • Add Layout • Add data • Display in activity • Customize List View • Add Model(Data plus model class) • Add controller(Adapter Class)	• **Task – 49** _Details may be seen at Annexure-I_

	General Overseas Employment	• Add View(Activity or Fragment) • Customize List View • Add On Item Click Listner • Select and implement functionality on every list • Send list Item data in new Activity • Display data on new Screen like Daraz or AliBaba. • Session on General Overseas Employment opportunities. • Job search Avenues. • Visa Processes and other necessary requirements. • Immigration Information (Legal age requirements, Health Certificate, Police Clearance & Travel Insurance)	

Week 23	Form Elements
	
	Overseas Employment
		• Buttons
		• Input Fields
		• Output Fields
		• Images etc
		• Handling Events.
		• Fragments
		• Launch Fragment
		• Pass data using Bundle
		• Load fragment on click
		• Swipe Fragments
		• Activity vs Fragment
		• Fragment Lifecycle
		• Dependency on Activity
		• Separate Front End & Back End
		   • Selection of one country from countries of destination (Gulf Countries, Malaysia, South Korea etc)focusing on:-
		  I. Trade specific Job Prospects and Earning levels in that country.
		  II. Country Specific Labor laws, entry and exit requirements (Legal age requirements, Health Certificate, Police Clearance & Travel Insurance etc.).
			• **Task – 50**
			
			• **Task – 51**
			Details may be seen at Annexure-I

Week 24	Frontend Designing	• Frontend Designing • Relative Layout for Placement • Linear Layout for responsiveness • Scroll View for infinite Scrolling • UI • Multiple Files with one screen • Based on size • Based on orientation • UI for tablets devices • Services • Services Life Cycle • Activity and service • Start Service • Stop Service • Saving user information • Shared Preferences • Key Value Pair • Remove and clear functions. • Counter Example. • Introducing SQLite • SQLite Open Helper and creating a database • Opening and closing a database • SQLite & Paper DB 93 • FireBase • Saving user information • Working with cursors Inserts, updates, deletes	**Monthly Test 6**
	Oversees Employment	• Selection of another country from countries of destination (Gulf Countries, Malaysia, South Korea etc)focusing on:- i. Trade specific Job Prospects and Earning levels in that country. ii. Country Specific Labor laws, entry and exit requirements (Legal age requirements, Health Certificate, Police Clearance & Travel Insurance etc.).	
Week 25	Sensors	• Motivational Lecture(*For further detail please see Page No: 4)* • Sensors • Working with sensors	• **Task – 52** *Details may be seen at Annexure-I*

		• Gravity Sensor	
		• accelerometer sensor	
		• Repositories (upload project on bit bucket)	
		• Async	
		• Web view	
		• Exploring Libraries	
		• What is Github?	
		• Button Library	
		• Image Zoom Library	
		• Glide in detail	
		• Android Web view	
		• Display website on android app.	
		• Use website as an android app,	
		• Async Task	
		• Action on Start	
		• Action on Progress	
		• Action on complete	
		• Self-employment	
		• Success story (*For further detail please see Page No: 5 and Annexure-III at the end*)	
		• Freelancing sites	
Week 26	**FINAL PROJECT**	• **Final Project Demonstration/Examination**	
	Entrepreneur ship and Final Assessment in project	• Business Incubation and Acceleration • Business Value Statement • Business Model Canvas • Sales and Marketing Strategies • How to Reach Customers and Engage CxOs • Stakeholders Power Grid • RACI Model, SWOT Analysis, PEST Analysis • SMART Objectives • OKRs • Cost Management (OPEX, CAPEX, ROCE etc.) • Final Assessment	**Final Assessment**
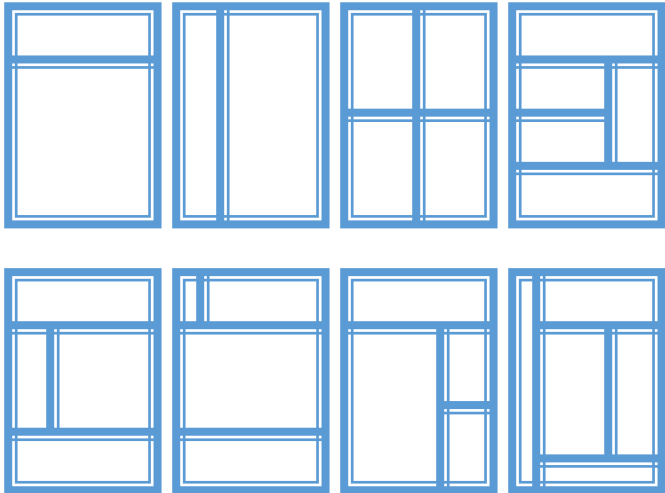
Tasks For Certificate in IT (Web, Software & Mobile Application Development)

Task No.	Task	Description	Week
		Web Development	
1	**Using Heading, Paragraph, Line Break and Horizontal Rule Tags**	Write a HTML code which displays all 6 headings with each heading on new line having paragraphs and the end of each paragraph; place a line (Horizontal Rule).	**Week-3**
2	**Using Bold, Italic, Underline, Teletype Text, Big and Small Tags**	Write a HTML code which displays "_HELLO WORLD I AM HTML_" text in Teletype font and also display _HELLO I AM BIG_ Text using BIG and _HELLO I AM SMALL_ Text using Small Tags.	
3	**Use Emphasis and Strong Tags**	Write a HTML code which displays "This is Emphasis Text" using Emphasis and Strong Tags.	

4	**Use Ordered, Unordered and Definition Lists**	Use Ordered, Unordered and Definition Lists in single code to display the following output on the webpage:
		1. Chapter 1
		2. Chapter 2
		• Chapter 2 Section 1
		• Chapter 2 Section 2
		    Chapter 2 Section 2 Item 1
		    Chapter 2 Section 2 Item 2
		• Chapter 2 Section 3
		3. Chapter 3
		4. Chapter 4	

5	**Use Comment and Include Tags in a single code**.	Make a webpage Comment.html having text "I am Internal Text" with having commented text "I am Comment" that will not display in the webpage. Make another webpage with name Included.html containing text "I am External Text" and	

Task No.	Task	Description	Week
		display its contents in Comment.html webpage.	
6	**Use Image Tag with attributes.**	Insert image in the webpage with height=30, width=30 having 3 border size and when we bring mouse on the image, it displays text "I am Image in Webpage".	
7	**Use Bgsound, Embed and NoEmbed Tags in a single code.**	When a webpage is loaded a beep sound is played in the background for one time only. This webpage displays a multimedia plugin using Embed Tag and if the browser does not support this plugin an image is displayed instead of this multimedia plugin.	
8	**Use of Hyperlink**	Use <A HREF> . . . </A> Tag with all attributes to create a Local Link to any file. Make second link which is used to link High Level Directory. Make third link which is used to link any Internet website. Lastly make fourth link which contains an email address and when user clicks the link, email editor opens up.	**Week-4**
9	**Use of Hyper Graphics**	Make a webpage that contains an image, when user bring mouse on the image and click it, google.com opens in the browser.	

Task No.	Task	Description	Week
10	**Use escape sequences and Reformat to display the Text.**	Display the Text in the given format with the help of Reformat tag and also display the special characters as shown below: COUNTRY DATE OF INDEPENDENCE ---------------- --- PAKISTAN 1947 INDIA 1947 7 < 18, 8 > 6 & 4 C H E C K THIS O U T é ü €	
11	**Make a webpage having Yellow Background.**	Make a webpage having Yellow Background.	
12	**Background image**	Make a webpage with image as a Background and when we scroll this webpage, the image stays fix and only the top of the webpage scrolls.	
13	**Use Base font in Webpage**	Make a webpage having 4 as a Base font with Red font color and yellow background. Also display the text as H_2O and X^3Y^2.	
14	**Auto Refresh webpage**	Make a webpage that refreshes itself after every 5 seconds.	
15	**Create Table**	Create the following Table.	Week-4

I am Table 1			
First	Second	I am Table 2	Hello
Third	Fourth	Pakistan	
Fofth	Sixth	BLANK	I am Merged
Seventh	Eight	BLANK	Cells

Task No.	Task	Description	Week
16	**Use of Frames in webpage**	Use Frames to design the following different frames in the webpage.	
17	**Make a complete HTML Form**	Make the following Report Form (The Country Dropdown List must contain 7 Countries in Ascending Order but when form is loaded, by default Pakistan is Selected)	**Week-4**

Task No.	Task	Description	Week
18	**Buttons with images**	Make the Submit and Reset buttons in the form having pictures on it instead of simple text.	

Task No.	Task	Description	Week
19	**External Style Sheet**	Call an External Style Sheet in the webpage in which Font Size of the text must be 77 points Color of the text must be green and background of the webpage must be yellow.	**Week-5**
20	**Use of on Mouse Over Event**	Change the color of the linking text by bringing the mouse over it.	
21	**Use of on Click Event**	Change the color of the text when it is clicked.	
22	**Use of on Mouse Over Event**	When we bring the mouse on the image, the image changes its position.	
23	**Use Output Statement of JavaScript**	Display your name on the screen using JavaScript.	**Week –7**
24	**Use of If…else Condition**	Use If...else statement of JavaScript to write a code to Display "Good Morning" or "Good Afternoon" according to current Time.	**Week-8**
25	**Use of Switch Statement**	Use Switch statement of PHP to display current day of the week.	
26	**Loops to display numbers on screen**	Write a Program to display count, from 5 to 15 (as shown below) using following: • For Loop • While Loop • Do…while Loop 5 6 7 : 15	
27	**Use Output Statement of PHP**	Display your name on the screen using PHP.	**Week-10**
28	**Use of If…else Condition**	Use If...else statement of PHP to write a code to Display "Good Morning" or "Good Afternoon" according to current	

Task No.	Task	Description	Week
		Time.	
29	**Use of Switch Statement**	Use Switch statement of PHP to display current day of the week.	
30	**For Loop to display numbers on screen**	Write a Program to display count, from 5 to 15 using PHP for loop as given below: 5 6 7 : 15	
31	**Factorial of Number**	Write a program to calculate factorial of a number using for loop in PHP.	
32	**While Loop to display the pattern**	Write a Program to create following pattern using while loop: * ** *** **** ***** ****** ******* ********	**Week-10**
33	**Do…while Loop to display the numbers**	Write a Program to display count, from 1 to 5 using PHP do...while loop as given below: 1 2 3 4 5	
34	**Using Array and for…each loop**	You need to write a program in PHP using for...each loop to remove specific element by value from an array using PHP program.	

Task No.	Task	Description	Week
		Hint:	
		• Take an array with list of month names.	
		• Take a variable with the name of value to be deleted.	
35	**Sort the Array Elements**	Write a function to sort an array	**Week-11**
36	**Find the case of string**	Write a PHP function that checks whether a string is all lowercase.	
37	**Find String Length**	Write a PHP program to find the length of the string. Hint: • You have to use one variable. • You must use a built-in PHP String Function.	
38	**Linking Webpage with Database**	Create a Database in MySQL with Name "School" also create a table with name "Students" having fields "S. No", "Name", "Father Name", "Roll No" and "Class". Now make a complete webpage, which allows user to INSERT new student data, VIEW all records and display them on webpage, UPDATE an existing student record and DELETE an existing student record from the above "Students" Table.	
Desktop Application Development JAVA		
39	**Use Output Statement of JAVA**	Display your name on the screen using JAVA.	**Week-14**
40	**Use of If…else Condition**	Use If...else statement of JAVA to write a code to Display "Good Morning" or "Good Afternoon" according to current Time.	**Week-15**
41	**Use of Switch Statement**	Use Switch statement of JAVA to display current day of the week.	
42	**For Loop to display numbers on screen**	Write a Program to display count, from 5 to 15 using JAVA for loop as given below:	**Week-15**

Task No.	Task	Description	Week
		5 6 7 : : 15	
43	**Factorial of Number**	Write a program to calculate factorial of a number using for loop in JAVA.	
44	**While Loop to display the pattern**	Write a Program to create following pattern using while loop: * ** *** **** ***** ****** ******* ********	
45	**Do…while Loop to display the numbers**	Write a Program to display count, from 5 to 1 using JAVA do...while loop as given below: **5** **4** **3** **2** **1**	

Task No.	Task	Description	Week
46	**Link Form with Database using JAVA**	Create a Database with Name "School" also create a table with name "Students" having fields "S.No", "Name", "Father Name", "Roll No" and "Class". Now make a Form, which allows user to INSERT new student data, VIEW all records and display them on Screen, UPDATE an existing student record and DELETE an existing student record using the above "Students" Table.	**Week-17**
		Mobile Application	
47	**Use Output Statement**	Write a code to Display your name on the Mobile	**Week-20**
48	**Make a button**	Display a button on the mobile screen	**Week-21**
49	**Change the Mobile Background Color**	Make a mobile app to change the Background of the screen to Yellow	**Week-22**
50	**Display a textbox**	Write a mobile code to display a Textbox on the screen	**Week-23**
51	**Display alert message on the mobile screen**	Display Textbox and Button on the screen and when we add a Text in Textbox, it is displayed on the Mobile screen as an Alert Message.	**Week-23**
52	**Connectivity with Database using Mobile application.**	Display Textbox and Button on the screen and when we add a Text in Textbox, and when button is pressed it is stored in Database	**Week-25**

Workplace/Institute Ethics Guide

Work ethic is a standard of conduct and values for job performance. The modern definition of what constitutes good work ethics often varies. Different businesses have different expectations. Work ethic is a belief that hard work and diligence have a moral benefit and an inherent ability, virtue or value to strengthen character and individual abilities. It is a set of values centered on importance of work and manifested by determination or desire to work hard.

The following ten work ethics are defined as essential for student success:

1. **Attendance:**

   Be at work every day possible, plan your absences don't abuse leave time. Be punctual every day.

2. **Character:**

   Honesty is the single most important factor having a direct bearing on the final success of an individual, corporation, or product. Complete assigned tasks correctly and promptly. Look to improve your skills.

3. **Team Work:**

   The ability to get along with others including those you don't necessarily like. The ability to carry your own weight and help others who are struggling. Recognize when to speak up with an ideas and when to compromise by blend ideas together.

4. **Appearance:**

   Dress for success, set your best foot forward, personal hygiene, good manner, remember that the first impression of who you are can last a life time

5. **Attitude:**

   Listen to suggestions and be positive, accept responsibility. If you make a mistake, admit it. Values workplace safety rules and precautions for personal and co-worker safety. Avoids unnecessary risks. Willing to learn new processes, systems and procedures in light of changing responsibilities.

6. **Productivity:**

   Do the work correctly, quality and timelines are prized. Get along with fellows, cooperation

is the key to productivity. Help out whenever asked, do extra without being asked. Take pride in your work, do things the best you know how. Eagerly focuses energy on accomplishing tasks, also referred to as demonstrating ownership. Takes pride in work.

7. **<u>Organizational Skills</u>:**

Make an effort to improve, learn ways to better yourself. Time management; utilize time and resources to get the most out of both. Takes an appropriate approach to social interactions at work. Maintains focus on work responsibilities.

8. **<u>Communication</u>:**

Written communication, being able to correctly write reports and memos. **Verbal communications,** being able to communicate one on one or to a group.

9. **<u>Cooperation</u>:**

Follow institute rules and regulations, learn and follow expectations. Get along with fellows, cooperation is the key to productivity. Able to welcome and adapt to changing workplace situations and the application of new or different skills.

10. **<u>Respect</u>:**

Work hard, work to best of your ability. Carry out orders, do what's asked the first time. Show respect, accept and acknowledge an individual's talents and knowledge. Respects diversity in the workplace, including showing due respect for different perspectives, opinions and suggestions.

SUGGESTIVE FORMAT AND SEQUENCE ORDER OF SUCCESS STORY

S. No	Key Information	Detail/Description
1.	**Self & Family background**	• Self-introduction • Family background and socio economic status, • Education level and activities involved in • Financial hardships etc
2.	**How he came on board NAVTTC Training/ or got trained through any other source**	• Information about course, apply and selection • Course duration, trade selection • Attendance, active participation, monthly tests, interest in lab work
3.	**Post training activities**	• How job / business (self-employment) was set up • How capital was managed (loan (if any) etc). • Detail of work to share i.e. where is job or business being done; how many people employed (in case of self-employment/ business) • Monthly income or earnings and support to family • Earning a happy life than before
4.	**Message to others (under training)**	• Take the training opportunity seriously • Impose self-discipline and ensure regularity • Make Hard work pays in the end so be always ready for the same.

Note: Success story is a source of motivation for the trainees and can be presented in a number of ways/forms in a NAVTTC skill development course as under: -

1. **To call a passed out successful trainee of institute. He will narrate his success story to the trainees in his own words and meet trainees as well.**
2. **To see and listen to a recorded video/clip (5 to 7 minutes) showing a successful trainee Audio video recording that has to cover the above mentioned points.**
3. **The teacher displays the picture of a successful trainee (name, trade, institute, organization, job, earning etc) and narrates his/her story in teacher's own motivational words.**