Advance Web Application Development

Module Title	Learning Units
Orientation/Course Introduction	• **Job market** • **Course Applications**
Overview of Domain Name, Web Hosting and Basic Website Structuring	• **Institute/work ethics** • Describe Domain Name with respect to the most common TLDs and their importance • Describe ICANN and demonstrate, how it works. • Describe, how to register a domain name using any domain registrar. • Describe Web Hosting, Types, Web Hosting Company, DNS and Common Parameters of Web Hosting Account • Describe Basic Website Structure • Design a Basic Static Web Page to print a single text line.

Webpage Designing with HTML Basics using Notepad	Students are introduced to:
	- Extensions of Web Pages (.html, .htm, .php .aspx) - Basic Structuring of HTML based Web Page. - Designing of HTML Web Page with Title Tag - Designing of HTML Web Page with displaying Background Image - Designing of HTML Web Page with displaying Inline Image/images - Designing of HTML Web Page using inline styling of font, size and color - Designing of HTML Web Page with embedding a YouTube video - Designing of HTML Web Page with a table or multiple columns and rows.

Webpage Designing using CSS and JavaScript in Adobe Dreamweaver or Microsoft Expression	Students are introduced to: ▪ Understanding of Dreamweaver software to create and manage html, php and dot net web pages ▪ Install Adobe Dreamweaver Software on the laptop/desktop ▪ Understanding of Microsoft Expression software to create and manage html, php and dot net web pages ▪ Install Microsoft Expression on laptop/desktop ▪ Different webpage layouts (view) of Dreamweaver and Microsoft Expression code, design split. ▪ Understanding of Basic CSS ▪ Understanding of Basic JavaScript ▪ Define Basic Libraries ▪ Design a webpage using Basic CSS and JavaScript as library files. ▪ Design a basic HTML Form with JavaScript Controls
Designing a html-based website of Multiple Webpages with CSS and JavaScript, using Dreamweaver or Microsoft Expression	Students are introduced to learn: ▪ Designing a complete HTML based website of multiple web pages, using basic CSS and JavaScript files in Dreamweaver or Microsoft Expression ▪ Uploading the html website on Live Cloud Server / Web Hosting ▪ Troubleshoot and resolve the html website issue

Introduction to PHP	Students are introduced to: - Setup PHP on the local Machine. - Basic Structure of PHP - Complete PHP Syntax and Programming Language Basics. - Handle Strings in Webpage with String Functions - Setup Apache Server Framework on the laptop/desktop

	- Setup Mysql Database on the laptop/desktop
	- Concept of already available complete packaged Linux
	  framework (Apache+PHP+Mysql) for
	  windows like xamp and wamp.

Learn PHP Variables and Functions	Students are introduced to:
	- Define Variables and Constants.
	- Write PHP program using Data Types - Strings, Numbers,
	  Double, Boolean and null.
	- Learn the basics of defining Functions, Passing
	  Parameters
	  and Function Concepts.

Learn PHP Arrays and Loops	Students are introduced to: - Describe types of loops - Describe usage of different types of loops. - Write conditions and looping statements in PHP - Describe Arrays, its types and their applications. - Handling Arrays in PHP.

Design & Develop PHP based Website using Dreamweaver or Microsoft Expression	Students are introduced to: ▪ Learn to organize the source code with Namespaces. ▪ Learn how to use PHP to handle HTML forms. ▪ Learn how to use PHP to validate HTML forms. ▪ Learn how to use object-oriented programming in PHP. ▪ Build Complete PHP based dynamic website using loops, functions, arrays and forms.
Introduction to Basic Microsoft ASP.Net Development with Visual Studio and MS SQL Server	Students are introduced to: ▪ Download and install Visual Studio ▪ Download and Install Microsoft SQL Server ▪ Understand the settings/preferences of Visual Studio ▪ Understand the settings/preferences of MS SQL Server ▪ Understand the purpose of web.config ▪ Understand the concept of a code-behind file ▪ Build a simple user interface using drag and drop
Learn how to connect MS SQL database with Asp.net Web Pages	Students are introduced to: ▪ Learn how to connect ASP.NET to SQL Server and view the results live ▪ Learn how to use the List View with Paging and SQL Server. ▪ Learn how to update, delete and update data from a web page with SQL Server ▪ Learn how to interact with databases using AJAX
Learn how to generate text area, drop downs, radio button, lists and tables, dynamically	Students are introduced to: ▪ Create and manage text area, drop downs, radio buttons, lists and tables in web page using visual studio and generate asp.net web page/s.

Learn How to Create, Compile and Build a .Net Web project and run it in a web	▪ Understand the concept of an object and its properties
browser	▪ Create a .net web project and run it in a browser, and examine the html code in a browser ▪ Create a complete dynamic web project in visual studio with connection of MS SQL Database. ▪ Compile and Build the Source code of asp.net and run the web page in any browser
Introduction to WordPress and Xamp.	Students are introduced to: ▪ WordPress and its directory structure. ▪ Download, Install and Configure xamp on your laptop or desktop ▪ Start Xamp services and Create mysql database using phpMyAdmin of xamp ▪ Download, Install and Configure WordPress on your PC, so you can learn without having to pay hosting or domain fees, using xamp. ▪ Understand the main features of WordPress

Customize WordPress Website	Students are introduced to: ▪ Navigate around the WordPress dashboard, know what everything does and how to use it. ▪ Create pages and posts, and most importantly, know the difference between the two. ▪ Correctly use post categories and tags and understand why these can cause you problems at the search engines if used incorrectly. ▪ Create custom menus and navigation systems that both visitors and search engines will find useful. ▪ Create a static homepage useful for most websites, or a blog like homepage useful for bloggers.
Understand plugins & themes and how to find/install them	Students are introduced to: ● Find, Install, activate and configure any given WordPress plugins ● Find, Install, activate and configure any given WordPress theme ● Troubleshoot the errors and warnings.
Secure and Optimize WordPress Website	Students are introduced to: ● Know how to configure WordPress for best results ● Protect their WordPress website from hackers and spammers using given modules/plugins ● Create a Responsive Website that looks good on any browser ● Optimize WordPress Website with relevant plugins /modules

Deploying WordPress Website on cloud server / web hosting	Students are introduced to: • Getting the complete website backup from xamp (local machine) • Restoration of complete WordPress website backup on cloud server/web hosting • Connectivity of database with WordPress website file using wp- config file. • Correction of Permalinks/URLs
Understanding and Configuration of htaccess and php.ini file at web hosting	Students are introduced to: • Understanding of importance of htaccess file, its parameters and application • Understanding of importance of php.ini file , its parameters and their application

On-Page SEO	Students are introduced to:
	• Understanding of On-Site SEO with respect to:
	    ○ Optimization of Page Title as per the google standards
	    ○ Optimization of Page Meta title as per the google standards

	○ Optimization of Page Meta Description as per the Google Standards ○ Optimization of Page Meta Tags and Keywords as per the google Standards.
Learn Google Search Console	Students are introduced to: • Describe the importance of google search console • Learn to add property in google search console • Learn the importance of sitemap and generate Website XML based sitemap using plugin or sitemap generating

	website and submit to Google Search Console • Learn the importance of Robots.txt file, its parameters and generate or write a Robot.txt file and Submit to Google Search Console • Crawling and indexing web pages in google search console • Troubleshooting and fixing the web page errors.
	Students are introduced to: • Describe the importance of Google Analytics • Adding property in google Analytics • Configuring Property and managing views in google analytics
3rd Party Integration with WordPress Website	Students are introduced to: • Describe APIs (Application Programmers Interface) and its types with respect to its importance, configuration and application • Describe, how to integrate any API with WordPress website
E Commerce Website designing and development in WordPress using WooCommerce	Students are introduced to: • Describe E Commerce and its difference from Conventional Commerce • Describe major modules of E commerce website like inventory management system, order management system, delivery management, payment methods and customer support services. • Find, Install and Configure WooCommerce Plugin at WordPress Website • Manage the WooCommerce settings as per the given criteria

Tasks For Certificate in Web Designing and Web Engineering

Task No.	Task	Description
1.	**Find the career path**	• Prepare a career path related to your course and also highlight the emerging trends in the local as well as international market
2.	**Work Ethics**	• Generate a report on Institute work ethics and professionalism related to your course
3.	**Identify Top Level Domain Names, (TLDs), Web Hosting Companies and Structure of Basic HTML Web page in notepad**	• Prepare a list of top level domain names, web hosting companies and build a simple and basic HTML website with basic structure to print a single text line.
4.	**Build an HTML web page with given basic parameters (tags)**	• Identify different web page extensions for html, php and asp.net. • Build an HTML web page with background image, inline image, embedding youtube video, different columns and rows, table and inline styling of font size and color in notepad
5.	**Build an HTML web page with separate CSS and JavaScript file in Adobe Dreamweaver and Microsoft Expression**	• Install Adobe Dreamweaver • Install Microsoft Expression • Demonstrate the settings/preferences in Adobe Dreamweaver • Demonstrate the settings/preferences in Microsoft Expression • Demonstrate basic html libraries in the main web page

		• Build a basic CSS file with basic (sample) stylings code, call it in the main web page and
		check its working • Build a basic JavaScript file with basic (sample) code, call it in the main web page and check its working
6.	**Build a complete HTML based website with 4-5 web pages using separate CSS and JavaScript file in Dreamweaver or Microsoft Expression**	• Build a complete website of multiple (4-5) web pages, with main menu, styling and scripting through separate css and js files in Adobe Dreamweaver or Microsoft Expression
7.	**Setup PHP, Apache and MySQL Environment on Windows machine.** **Demonstrate basic structure of PHP and build a sample static webpage in PHP**	• Download and Install PHP (latest version) on the laptop/desktop • Download and install latest version of Apache on the laptop/desktop • Setup MySQL database • Build a sample webpage in PHP and run it on the installed Apache/php/MySQL environment

8.	**Demonstrate PHP Variables and their usage**	• Demonstrate PHP Variables and Constants • Build a webpage with writing a PHP program using Data Types - Strings, Numbers, Double, Boolean and null. • Use php function in the webpage.
9.	**Demonstrate Loops and Arrays in PHP web page**	• Demonstrate different types of loops in PHP based webpage • Demonstrate different types of arrays in PHP based webpage
10	**Build a complete static website of 4 to 5 web pages in PHP**	• Build a complete static website of 4 to 5 web pages in PHP using php variables, functions, loops, arrays using separate CSS and JavaScript files in Adobe Dreamweaver or Microsoft Expression
11	**Build a complete dynamic website of 4 to 5 web pages in PHP with Mysql**	• Build a complete dynamic website of 4 to 5 web pages in PHP with mysql database, using php based web forms and their connectivity with the database
12	**Installation of MS Visual Studio and MS SQL Server**	• Demonstrate the installation of MS Visual Studio and MS SQL Server and their different layouts. • Demonstrate the basic settings & preferences of MS Visual Studio and MS SQL Server
13	**Demonstrate the concept of web.config file build a simple user interface in visual studio**	• Understand the purpose of web.config • Understand the concept of a code-behind file • Build a simple user interface using drag and drop.

14	**Demonstrate MS SQL Server database connection with asp.net web pages**	• Create ms sql database using Sql server • Connect database with asp.net web pages using web.config • Demonstrate how to update, delete and update data from a web page with SQL Server • Interact with MS SQL databases using AJAX in visual studio
15	**Demonstrate to generate text area, drop downs, radio button, lists and tables, dynamically**	• Create and manage text area, drop downs, radio buttons, lists and tables in asp.net web page using visual studio
16	**Create, Compile and Build an asp.net webpage with its connection with MS SQL database**	▪ Demonstrate the concept of an object and its properties in visual studio ▪ Create a .net web project and run it in a browser, and examine the html code in a browser ▪ Create a complete dynamic web project in visual studio with connection of MS SQL Database. • Compile and Build the Source code of asp.net and run the web page in any browser
17	**Download, Install and Configure Xamp** **Download, Install and Configure WordPress**	▪ Download, Install and Configure xamp on your windows-based laptop or desktop ▪ Start Xamp Services and Create Mysql database using xamp via phpMyAdmin ▪ Download and Install WordPress with Mysql database

18	**Customize WordPress Website with basic settings**	• Demonstrate the basic settings of WordPress dashboard which includes, general, permalinks, reading and writing configurations. • Create pages and posts and demonstrate the difference of these two. • Upload media (images and video), and use them in the page and post. • Create custom menus and navigation systems that both visitors and search engines will find useful. • Create a static homepage useful for most websites, or a blog like homepage useful for bloggers.
19	**Find, Install and Activate plugins & themes**	• Find, Install, activate and configure any given WordPress plugins • Find, Install, activate and configure any given WordPress theme • Troubleshoot the errors and warnings
20	**Secure WordPress Website** **Optimize WordPress Website**	• Find, Download, Install and Activate WordPress Security Plugins like Wordefence and Succuri • Generate API Key of Succuri Plugin and do the needful hardening settings • Scan the website using wordefence plugin and generate the report of infected files • Optimize website using plugin of Autoptimize • Optimize website images using Smush (Plugin)
21	**Generate Website Backup**	• Complete website backup from xamp (local machine) manual: website files and database separately. • Complete website backup using WordPress plugin (WP Migrate)
22	**Restore Website Backup**	• Restoration of complete WordPress website backup on cloud server/web hosting using cpanel backup

		restoration module
23.	**Troubleshoot the Connectivity of mysql database on LIVE web hosting**	• Connectivity of database with WordPress website file using wp-config file. • Correction of Permalinks/URLs (from localhost to live domain name)
24.	**Configuration of htaccess and php.ini file at web hosting**	• Configure htaccess file to manage the parameters of website errors, warnings, notices, path and SSL • Configure the php.ini file to manage the parameters of max file upload size, max php variables, max processing time, max file attachment size and php version.
25.	**On-Page SEO**	• As per the SEO standards Optimize the main home page of WordPress website with respect to: ○ Page Meta Title ○ Page Meta Description ○ Page Meta Tags and Keywords
26.	**Create Google Search Console Account and Submit Website as a property in it.**	• Adding website URL as property in google search console • Generate Website XML based sitemap and submit to Google Search Console • Generate Robot.txt file and Submit • Crawl and index web pages in google search console • Generate a report of errors and warning, if find any on the website, using google search console.

27.	**Create Google Analytics and Submit Website as a property in it.**	• Create Google Analytics Account and add property in google Analytics • Configuring Property with verification code and managing views in google analytics

28.	**E Commerce Website designing and development in WordPress using WooCommerce**	• Demonstrate E Commerce website and its difference from Conventional Commerce
		• Find, Download, Install and Activate WooCommerce Plugin in WordPress Website
		• Manage Settings of WooCommerce Pluginwith respect to:
		    o General
		    o Payment
		    o Shipping
		    o Emails
		    o Accounts and Privacy

29.	**Build your CV**	Download professional CV template from any good site (https://www.coolfreecv.com or relevant) • Add Personal Information • Add Educational details • Add Experience/Portfolio • Add contact details/profile links
30.	**Create an account profile on Fiverr (at least two gigs) and Up-work**	Create an account by following these steps: **Step 1:** Personal Info **Step 2:** Professional Info **Step 3:** Linked Accounts **Step 4:** Account Security

31.	**How to search and apply for jobs in at least two labor marketplace countries (KSA, UAE, etc.)**	• Browse the following website and create an account on each website 　▪ Bayt.com – The Middle East Leading Job Site 　▪ Monster Gulf – The International Job Portal 　▪ Gulf Talent – Jobs in Dubai and the Middle East • Find the handy 'search' option at the top of your homepage to search for the jobs that best suit your skills. • Select the job type from the first 'Job Type' drop-down menu, next, select the location from the second drop-down menu. • Enter any keywords you want to use to find suitable job vacancies. • On the results page you can search for part- time jobs only, full-time jobs only, employers only, or agencies only. Tick the boxes as appropriate to your search.