

# **Information Booklet cum Syllabus**

**Of**

## **Web Application Development using Apache, PHP and MYSQL**

**Revision-I**



**JULY 2023**

**National Institute of Electronics and Information Technology**

An Autonomous Scientific Society under  
Ministry of Electronics and Information Technology, Government of India

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## 1. About Course

The course aims to imbibe skills in the student to build dynamic website by using different web technologies starting with building attractive user interface to backend business logic and database integration. The student will learn from conception of an idea to building of an actual finished product by creating a responsive design by making powerful use of relational database

## 2. NIELIT

National Institute of Electronics and Information Technology, NIELIT, (Erstwhile DOEACC Society) is an autonomous scientific society of the Ministry of Electronics & Information Technology, Government of India. The Society is registered under the Societies Registration Act, 1860. NIELIT was set up to carry out Human Resource Development and related activities in the area of Information, Electronics & Communications Technology (IECT). NIELIT is engaged in both Formal & Non-Formal Education in the areas of IECT besides development of industry-oriented quality education and training programs in the state-of-the-art areas. NIELIT has endeavored to establish standards to be the country's premier institution for Examination and Certification in the field of IECT. It is also one of the National Examination Body, which accredits institutes/organizations for conducting courses in IT and Electronics in the non-formal sector.

## 3. Objective of Course

This objective of this course is to introduce the learner to the fundamentals of web development. It starts with the basics, such as how to create web applications, and then covers Apache, PHP, MySQL and Laravel.

After completing this course, the learner will be able to:

- create web applications using PHP and MySQL
- understand the concepts of client and server
- Get hands on experience of how things happen in PHP.
- Get in depth learning of MySQL relational database management system.
- Get be able to perform form handling using PHP.
- learn about state management in PHP [SESSIONS & COOKIES]
- Learn how to connect PHP web application with MySQL database.
- Send and receive data to and from database.
- Environment of Laravel framework

## 4. Job Roles of Course

After successful completion of the course, the candidates shall be employed in the industries for following occupations:

- Web developer
- Database Administrator
- Programmer
- Back-End Developer

## 5. Eligibility

10+2 with Basic knowledge of computer, Internet and basic HTML Programming.

## 6. Total duration of the Course

60 Hours (Theory: 20hours, Practical/Tutorial: 20hours, Assignment 20hrs.)

## 7. Course Details

- Course Outline and Objective of Each Unit

Sr. No.	Unit Name	Duration (Theory) in Hours	Duration (Practical ) in Hours	Total Learning Hours	Learning Objectives
1	Introduction to internet and Website Designing	01	01	02	After completing this unit, Learner will be able to <ul style="list-style-type: none"> <li>Work on XAMP</li> <li>Work on local server</li> </ul>
2	HTML	03	03	06	After completing this unit, Learner will be able to <ul style="list-style-type: none"> <li>Use HTML tags</li> <li>Create web pages</li> </ul>
3	CSS	04	04	08	After completing this unit, Learner will be able to <ul style="list-style-type: none"> <li>Do styling of web pages using CSS</li> </ul>
4	JavaScript	04	04	08	After completing this unit, Learner will be able to <ul style="list-style-type: none"> <li>Create interactive web sites using JavaScript</li> </ul>
5	PHP	06	06	12	After completing this unit, Learner will be able to <ul style="list-style-type: none"> <li>Use PHP for creating interactive web pages</li> </ul>
6	DBMS	05	05	10	After completing this unit, Learner will be able to <ul style="list-style-type: none"> <li>Work with databases</li> <li>Work with RDBMS</li> <li>Use SQL</li> </ul>
7	Mini Project Discussion	02	02	04	After completing this unit, Learner will be able to <ul style="list-style-type: none"> <li>Work on live project</li> </ul>
8	Project Hosting and Publishing	02	02	04	After completing this unit, Learner will be able to <ul style="list-style-type: none"> <li>Do project Hosting and Publishing</li> </ul>
9	Laravel	03	03	06	After completing this unit, Learner will be able to <ul style="list-style-type: none"> <li>Use Laravel Framework</li> </ul>
<b>Total</b>		<b>30</b>	<b>30</b>	<b>60</b>	

## 8. Detailed Syllabus

Unit Name	Contents	Hrs.
Introduction to internet and web designing	<ul style="list-style-type: none"> <li>• Introduction to internet and websites</li> <li>• Introduction to XAMP</li> <li>• Installation of XAMP</li> <li>• Testing of local web server</li> </ul>	02
HTML	<ul style="list-style-type: none"> <li>• Introduction to HTML</li> <li>• HTML Basic Tags</li> <li>• HTML Attributes</li> <li>• HTML Lists</li> <li>• HTML Image</li> <li>• HTML Table</li> <li>• Hyperlinks</li> <li>• Forms</li> </ul>	06
CSS	<ul style="list-style-type: none"> <li>• Introduction to CSS</li> <li>• CSS Selectors</li> <li>• CSS Properties</li> <li>• CSS Tables</li> <li>• CSS Lists</li> <li>• CSS Menu Design</li> <li>• CSS Image Gallery</li> <li>• W3.CSS Framework</li> </ul>	08
JavaScript	<ul style="list-style-type: none"> <li>• Introduction to JavaScript</li> <li>• Inline &amp; External link</li> <li>• JavaScript programs</li> <li>• JS Functions</li> <li>• Loop</li> <li>• JS Validations</li> <li>• JS PopUp Boxes</li> </ul>	08
PHP	<ul style="list-style-type: none"> <li>• PHP Variables</li> <li>• PHP Statements</li> <li>• PHP Operators</li> <li>• PHP - Conditional Statements</li> <li>• PHP Loops</li> <li>• PHP Arrays</li> <li>• PHP Custom Functions</li> <li>• PHP File functions</li> <li>• PHP\$_FILE variable</li> <li>• PHP Sessions</li> <li>• PHP Cookies</li> <li>• PHP Server Variables</li> </ul>	12
Databases	<ul style="list-style-type: none"> <li>• Introduction to Databases</li> <li>• RDBMS</li> <li>• Tables</li> <li>• Records &amp; Fields</li> <li>• Primary and Foreign Keys</li> <li>• SQL and SQL Queries</li> </ul>	10

Unit Name	Contents	Hrs.
	<ul style="list-style-type: none"> <li>• Create Database</li> <li>• Create Table</li> <li>• Alter table</li> <li>• Insert &amp; Update into Table</li> <li>• Delete Table</li> </ul>	
Mini Project Discussion	<ul style="list-style-type: none"> <li>• Working on live project</li> </ul>	04
Project Hosting and Publishing	<ul style="list-style-type: none"> <li>• Project Hosting and Publishing</li> </ul>	04
Laravel	<ul style="list-style-type: none"> <li>• Introduction to Framework</li> <li>• Installation of Laravel</li> <li>• Routing in Laravel</li> </ul>	06
<b>Total</b>		<b>60</b>

## 9. Reference Books/Study Material

- PHP and MySQL Web Development, Fifth Edition, Luke Welling, Laura Thomson, Publisher(s): Addison-Wesley Professional
- Beginning PHP, Apache, MySQL Web Development, Michael K. Glass, Yann Le Scouarnec, Elizabeth Naramore, Gary Mailer, Jeremy Stolz, Jason Gerner, Publisher: Wrox
- <https://www.w3schools.com/>
- Web Database Applications with PHP and MySQL, By Hugh E. Williams, David Lane , 2002

## 10. Practical Assignments

<b><u>Assignment 1.</u></b>	1. Install XAMPP server on machine 2. Testing of XAMPP server 3. Folder structure of XAMPP																																				
<b><u>Assignment 2.</u></b>	1. Create an HTML file (e.g. first_page.html) that specifies a page that contains a heading and two paragraphs of text. As the texts in the heading and paragraphs, you can use any texts you like.  2. Write html code to generate following output. 1.Coffee 2.Tea 3.Black Tea 4.Green Tea 5.Milk																																				
<b><u>Assignment 3.</u></b>	1. Write HTML Code to demonstrate the use of Anchor Tag for the Following: 1. Creating a web link that opens in a new window. 2. Creating a web link that opens in the same window. 3. C Reference within the same html document. 4. Reference to some image. 5. Making an image a hyperlink to display second image  2. Write a HTML code to design a form which should allow to enter your personal data ( Hint: make use of text field, password field, e-mail, lists, radio buttons, checkboxes, submit button)																																				
<b><u>Assignment 4.</u></b>	1. Customize the design of your content by adding CSS inline styles to the base HTML. Set text and background colors, adjust sizes.  <ul style="list-style-type: none"> <li>• Change the Heading 1 element at the top of the page</li> <li>• Change the padding to 10px</li> <li>• Change the background color to green</li> <li>• Change the text color to white</li> </ul>																																				
<b><u>Assignment 5.</u></b>	1. Write a HTML code to create table and style the table by changing border and alternate row background colors using CSS .Final output should be like this:  <table border="1" data-bbox="475 1630 1374 1816"> <thead> <tr> <th colspan="6">STUDENTS MARK SHEET</th> </tr> <tr> <th>Name</th> <th>Maths</th> <th>Science</th> <th>English</th> <th>Physics</th> <th>General Knowledge</th> </tr> </thead> <tbody> <tr> <td>David</td> <td>85</td> <td>87</td> <td>88</td> <td>92</td> <td>88</td> </tr> <tr> <td>Richard</td> <td>91</td> <td>81</td> <td>78</td> <td>71</td> <td>74</td> </tr> <tr> <td>John</td> <td>81</td> <td>86</td> <td>88</td> <td>84</td> <td>92</td> </tr> <tr> <td>Tony</td> <td>84</td> <td>86</td> <td>87</td> <td>82</td> <td>81</td> </tr> </tbody> </table>	STUDENTS MARK SHEET						Name	Maths	Science	English	Physics	General Knowledge	David	85	87	88	92	88	Richard	91	81	78	71	74	John	81	86	88	84	92	Tony	84	86	87	82	81
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Tony	84	86	87	82	81																																
<b><u>Assignment 6.</u></b>	1. Write a JavaScript program to add two numbers 2. Write a JavaScript program to find largest of three numbers 3. Write a JavaScript Program to find whether a number is even or odd																																				
<b><u>Assignment 7.</u></b>	1. Write a JavaScript program to print all prime numbers between 1 to 100 2. Write a JavaScript program to print factorial of a number using functions																																				

	3. Write a JavaScript Program to validate forms
<b><u>Assignment 8.</u></b>	<ol style="list-style-type: none"> <li>1. Write a PHP code to print a string using echo + variable</li> <li>2. Write a PHP code to print two PHP variables using single echo statement.</li> <li>3. Write a PHP code to assign grade to students based on the marks using if-else statement. <b>Conditions:</b> <ul style="list-style-type: none"> <li>• If percentage are 60% or more, grade will be First Division.</li> <li>• If percentage between 45% to 59%, grade will be Second Division.</li> <li>• If percentage between 33% to 44%, grade will be Third Division.</li> <li>• If percentage is less than 33%, student will be Fail.</li> </ul> </li> <li>4. Write a PHP code to count 5 to 15 using loop.</li> </ol>
<b><u>Assignment 9.</u></b>	<ol style="list-style-type: none"> <li>1. Write a PHP code to calculate factorial of a number using for loop.</li> <li>2. Write PHP code to create calculator .The operations in calculator should be: <ul style="list-style-type: none"> <li>• Addition</li> <li>• Subtraction</li> <li>• Multiplication</li> <li>• Division</li> </ul> </li> </ol>
<b><u>Assignment 10.</u></b>	<ol style="list-style-type: none"> <li>1. Write a PHP code to reverse a number.</li> <li>2. Write a PHP code to print a table of a number.</li> </ol>
<b><u>Assignment 11</u></b>	<ol style="list-style-type: none"> <li>1. Write a PHP code to find whether a string is palindrome or not.</li> <li>2. Write PHP code to generate Fibonacci series.</li> </ol>
<b><u>Assignment 12</u></b>	<ol style="list-style-type: none"> <li>1. Write a PHP code to validate a number.</li> <li>2. Write PHP code to validate email.</li> </ol>
<b><u>Assignment 13</u></b>	<ol style="list-style-type: none"> <li>1. Write a PHP code to create Form.</li> <li>2. Write PHP code to work with form and its components.</li> </ol>
<b><u>Assignment 14</u></b>	<ol style="list-style-type: none"> <li>1. Write a PHP code to set Cookie.</li> <li>2. Write a PHP code to Delete Cookie.</li> </ol>
<b><u>Assignment 15</u></b>	<ol style="list-style-type: none"> <li>1. Write a PHP code to set session variable.</li> <li>2. Write a PHP code to change session variable.</li> </ol>
<b><u>Assignment 16</u></b>	<ol style="list-style-type: none"> <li>1. Create a database named book.</li> <li>2. Create a table python having field id, author, title and price. Insert 10 records in it</li> </ol>
<b><u>Assignment 17</u></b>	3. Insert, delete and modify records in python table.
<b><u>Assignment 18</u></b>	<ol style="list-style-type: none"> <li>1. Install Laravel Composer on machine</li> <li>2. Configure composer on machine</li> </ol>
<b><u>Assignment 19</u></b>	1. Create project on machine for proper working environment
<b><u>Assignment 20</u></b>	1. Create different route for routing