Uka Tarsadia University

B.Tech.

Semester III

WEB DEVELOPMENT

IT4017

Effective From July-2022

Syllabus version: 1.00

Subject Code	Subject Title	Teaching Scheme			
		Hours		Credits	
		Theory	Practical	Theory	Practical
IT4017	Web Development	3	4	3	2

Subject Code	Subject Title	Theory Examination Marks		Practical Examination Marks	Total Marks
		Internal	External	CIE	
IT4017	Web Development	40	60	100	200

Objectives of the course:

- To provide knowledge of server-side cross-platform HTML-embedded scripts with the latest version of PHP.
- To implement dynamic Web pages that can interact with databases and files using MVC architecture.

Course Outcomes:

Upon completion of the course, the student will be able to,

CO1: Understand server-side scripting, PHP variable types, their scope and control structure.

CO2: Understand and apply string, arrays and functions.

CO3: Apply PHP scripts to handle HTML forms elements

CO4: Understand OOP concept for developing Web pages

CO5: Develop dynamic Web pages using the database connectivity, session management and file handling

CO6: Develop interactive Web pages by combining concepts of Ajax with PHP

Sr. No.	Topics	Hours
Unit – I		
1	**Basics of Web Development:** Introduction of client server architecture, Difference between client-side and server-side scripting, PHP framework application structure, MVC approach, Introduction of PHP - Variables, Constants, Data types, Math operators and Decision making statements.	6
Unit – II		

2	**Strings, Arrays and Functions:** The string function, String conversion, Formatting text string, Building an array and modifying data in an array, Deleting array, Handling arrays with loops, Array functions, Extracting data from array, Sorting array, Array operators, Multidimensional arrays, Splitting, Merging, and other array functions.	8
Unit – III		
3	**Reading data in Web pages and Browser Handling:** Handling form elements, Using server's variables and HTTP headers, Dumping form's data, Handle data with custom array, Performing data validation, Client-side validation, Handling HTML tags in user input.	8
Unit – IV		
4	**Object Oriented Programming:** Creating classes and objects, Setting access to properties and methods, Initialise objects, Inheritance, Overriding, Overloading, Auto overloading classes, Static methods, Static members and inheritance, Creating abstract classes and interfaces, Comparing objects, Creating class constants, *final* keyword, Cloning objects and reflections.	7
Unit – V		
5	**Working with File and Databases:** File operations - open, read, write, delete, lock, and parse, Creating MySQL database, New table, Data entry in databases, Accessing databases, CRUD operations, Sorting data, Setting cookies, Reading a cookie, Delete a cookie, Working with FTP, Downloading and updating files with FTP, Creating and removing directions with FTP, Sending email, Storing data in sessions.	8
Unit – VI		
6	**Ajax:** Introduction to Ajax, Writing Ajax, Working with *XMLHttpRequest* object, Handling downloaded data, Ajax with PHP, Passing data to server using GET and POST method, Handling XML with PHP, Handling concurrent Ajax requests, Connecting to Web services Getting data with head request.	8

Sr. No.	**Web Development (Practical)**	**Hours**
1	Write a PHP script to demonstrate the usage of all the basic data types mentioned above and constants.	2
2	Write a PHP script to calculate percentage of a student using switch case statement and accordingly award grade using if…elseif ladder.	2

3	a) Write a PHP script to calculate first 20 numbers of fibonacci series. b) Write a PHP script to calculate sum of prime numbers from 1 to 100. c) Write a PHP script to draw pascal triangle till level 5. d) Write a PHP script to take username and password as input and print it as key- value pair.	4
4	a) Write a PHP script to find unique elements from two associative arrays. b) Write a PHP script to calculate matrix multiplication of indexed array	4
5	Write a PHP script to take input from an HTML form.	6
6	Write a PHP script using framework for storing and retrieving user information from MySQL table. a) Design a HTML registration and login page which takes name, password, email and mobile number from user. b) Store this data in MySQL database. c) On next page display all user in HTML table using PHP. d) Update/Delete details of user.	8
7	Implement session and cookie to maintain session during login and implement visitor counter.	4
8	Write a PHP script to create a file upload and download portal.	6
9	Write a PHP script to verify new user via email and mobile number.	2
10	Write a PHP script to implement “Forget Password” functionality.	4
11	Write a PHP script to perform password validation as per rules given.	2
12	Write a program using AJAX and PHP to demonstrate how a Web page can communicate with the Web server while a user type characters in input field.	4
13	Integrate google reCAPTCHA with PHP.	2
14	Project	10

Text book:

1. Steven Holzner - “PHP: The Complete Reference”, 2007, McGraw Hill Publication.

Reference books:

1. Thomas Myer - “Professional CodeIgniter”, 2008, Wiley India.
2. Tom Butler, Kevin Yank - “PHP & MySQL: Novice to Ninja”, 6th Edition/2017, SitePoint.
3. Laura Thomson, Luke Welling, “PHP And Mysql Web Development”, 5th Edition/2016 Pearson.

Course objectives and Course outcomes mapping:

- To provide knowledge of server-side cross-platform HTML-embedded scripts with the latest version of PHP: CO1, CO2, CO3
- To implement dynamic Web pages that can interact with databases and files using MVC architecture: CO4, CO5, CO6

Course units and Course outcome mapping:

Unit No.	Unit Name	Course Outcomes					
		CO1	CO2	CO3	CO4	CO5	CO6
1	Basics of Web Development	✓					
2	Strings, Arrays and Functions		✓				
3	Reading data in Web pages and Browser Handling			✓			
4	Object Oriented Programming				✓		
5	Working with File and Databases					✓	
6	Ajax						✓

Programme Outcomes:

PO 1: Engineering knowledge: An ability to apply knowledge of mathematics, science, and engineering.

PO 2: Problem analysis: An ability to identify, formulates, and solves engineering problems.

PO 3: Design/development of solutions: An ability to design a system, component, or process to meet desired needs within realistic constraints.

PO 4: Conduct investigations of complex problems: An ability to use the techniques, skills, and modern engineering tools necessary for solving engineering problems.

PO 5: Modern tool usage: The broad education and understanding of new engineering techniques necessary to solve engineering problems.

PO 6: The engineer and society: Achieve professional success with an understanding and appreciation of ethical behavior, social responsibility, and diversity, both as individuals and in team environments.

PO 7: Environment and sustainability: Articulate a comprehensive world view that integrates diverse approaches to sustainability.

PO 8: Ethics: Identify and demonstrate knowledge of ethical values in non-classroom activities, such as service learning, internships, and field work.

PO 9: Individual and team work: An ability to function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give/receive clear instructions.

PO 11: Project management and finance: An ability to demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO 12: Life-long learning: A recognition of the need for, and an ability to engage in life-long learning.

Programme Outcomes and Course Outcomes mapping:

Programme Outcomes	Course Outcomes					
	CO1	CO2	CO3	CO4	CO5	CO6
PO1	✓	✓	✓	✓	✓	✓
PO2						
PO3			✓	✓	✓	✓
PO4						
PO5			✓	✓	✓	✓
PO6						

PO7						
PO8						
PO9						
PO10						
PO11						
PO12						