

# Kadi Sarva Vishwavidyalaya, Gandhinagar

## MCA Semester II

### MCA-22: Open Source Technology

#### Rationale:

This Course guides the students to – work with core PHP and MySql, Create blog and website using Wordpress and develop application using Laravel framework.

- Furthermore, this course helps students in creating & handling HTML forms, Creating databases and tables and Inserting records in MySQL, Creating custom error handlers, PHP and MySQL debugging techniques, Setting & accessing cookies & session variables, Upload a file in PHP, Create the advanced PHP scripts and works with MVC architecture.

#### Prerequisites:

- Working knowledge of Internet and HTML, CSS, JavaScript.

#### Learning Outcome:

- The purpose of this course is to give students an understanding of Client/Server architecture with their application tools.
- The course provides an introduction to the development of client server technologies based web applications using PHP, MySQL, and Apache.
- The course will focus on the PHP programming language. This course also provides how to configure and use CMS and allows working with Php framework using MVC architecture.

Sub Total Credit	Teaching scheme		Examination scheme				
	(per week)		MID	CEC	External		Total Marks
	Th	Pr	Th	Th	Th.	Pr.	
5	3	4	25	25	50	50	150

#### Course Contents:

##### Unit 1: Introduction to PHP, Control Structures, Arrays and Functions:

[20%]

**Application:** To understand the basics of PHP and MySql

**Introducing PHP:** Why PHP and MySQL

**Side Scripting Overview:** Static HTML, Client-Side Technology, Server-Side Scripting and Escaping from HTML

**Learning PHP Syntax and Variables:** PHP's Syntax, Comments, Variables, Types in PHP, Type Summary, The simple types, Output

**Page No: Book 1: 3 to 18, 28 to 32, 33 to 57**

##### Unit 2: Features of PHP

[20%]

**Application:** To understand the major features needed to work with php applications

**Php Control Structures and Functions:** Boolean Expression, Branching, Looping and Using functions.

**Passing Information with PHP:** HTTP is Stateless; GET and POST Arguments, Formatting Form Variables.

**String Handling:** Strings in Php, String Functions

**Learning Arrays:** Php Arrays, Creating arrays, Retrieving values, multidimensional arrays, inspecting arrays, deleting arrays

**Number Handling:** Numerical types, Mathematical operators, mathematical functions

**Page No: Book 1: 59 to 140, 153 to 159**

**Unit 3: MySQL Database Integration and Query Processing and Web Forms: [20%]**

**Application:** To understand and implement MySql database with Php

**Introducing Database and MySQL:** Integrating PHP and MySQL: Connecting to MySQL, Making MySQL Queries, Fetching Data, Multiple connections, Building in error-checking, Creating MySQL database with PHP, MySQL functions.

**Performing Database Queries:** HTML Tables and Database Tables, Complex Mapping.

**Integrating Web Forms and Databases:** HTML Forms, Basic Form Submission to a Database, Self-Submission, Editing Data with an HTML Form

**Page No: Book 1: 185 to 188, 219 to 277**

**Unit 4: Advanced PHP and PHP CMS: [20%]**

**Application:** To understand and implement the concept of cookies and sessions. To create blogs and websites using WordPress

**Working with Cookies and Sessions:** What is a Session? How Session works in PHP, Session Functions, Cookies.

**Exception with PHP:** Error Handling in PHP.

**WordPress:** About WordPress: Why WordPress? Sites Built with WordPress, Installing and Upgrading WordPress, Dashboard and Settings

**Working with Content:** Post, Pages, Posts vs. Pages, Media Files, Links, Feeds

**Importing Content:** Importing Blogs, Importing HTML Files, Creating a Basic Theme.

**Page No: Book 1: 409 to 427**

**Book 2: 1 to 171**

**Unit 5: PHP Framework: [20%]**

**Application:** To learn and implement php framework using Laravel

**Laravel –** What is Laravel? Installation

**Quick start: Creating your first web application:** Database configuration, Creating the users table using migrations, Creating an Eloquent user model, Routing to a closure, Creating users with Eloquent, The users controller, Creating the users index view, Passing data from a controller to a view, Adding our dynamic content to the view, RESTful controllers, Creating a form for adding users, Routing POST requests to a controller action, Receiving form input and saving to the database, Creating links with the HTML helper, Deleting user records with Eloquent, Updating a user with Eloquent, Creating the update form with the form helper

**Top 5 features you need to know about:** Eloquent relationships, Authentication, Filters, Validations, Bundles

**Page No: Book – 3: 3 to 43**

**Text Book(s):**

1. PHP 6 and MySQL 6 Bible –Steve Suehring, Tim Converse and Joyce Park – Wiley Publication
2. Beginning wordpress 3 by Stephanie Leary – APRESS Publication
3. Laravel Starter, Shawn McCool, PACKT Publication

**Reference Books:**

1. PHP and MySQL Web Development – Luke Welling, Laura Thomson – Pearson
2. Laraval Up & Running by Matt Stauffer – O'Reilly Publication

**Practical Questions:**

1. Write a program that formats a block of text to be inputted by the user, based on the performances chosen by the user. Give options for color, font and size and display the output.
2. Create a web page and execute a PHP file on submission of the form and display the information using PHP.
3. Create an application that validates the proper email address and turns it into a link.
4. Include the user profile application, where user has to pass all validations.
5. Write a PHP program to perform all string operations available in php
6. Write a PHP program to perform Date functions function available in php
7. Write a PHP program to perform all the Math functions available in php
8. Write a PHP Program to perform Array operations like,
  - Print the values of array.
  - Reverse an array.
  - merge two arrays in sorted manner.
  - add values of all elements of an array.
9. Write a PHP program to display current date and time and display Good Morning / Good Afternoon/ Good Evening message according to current time.
10. Create an application to create a cookie, access a cookie and destroy the cookie.
11. Set a session after user's login; maintain the user's data with session. Destroy the session and its data after a period of time.
12. Build an authentication application and restricts the unauthorized user from loading the page. And redirect the page with appropriate message.
13. Develop an application which stores student's info with following fields rno, name, city, gender, percentage. Provide the following facilities like:
  - Search by city
  - Search by Gender
  - Display max and min percentage.
14. Write a program to calculate total weekly pay. If the user enters the number of hours worked and selects the hourly rate of pay from a list box. If overtime has been done, the number of hours is also entered. Over time hours are paid at double rate. A check box displays overtime. Calculate total amount to be paid.
15. Develop an application to add the movie name currently running with following operations:
  - To see all the favorite movie
  - To view top 5 and 10movies
16. Create an application which displays the info about a particular institute which enables the user to see the faculty list according to department.
17. Create an application that keeps track of how many times a visitor has loaded the page.
18. Write a program to do the paginating function to allow the user to go to the first page / last page like, <Prev [1] [2] ..... [10] Next>

19. Write a PHP program to calculate interest for loan using user defined class 'loancalculator'.
20. Write a program for online merchants with following operations:
  - Customer login for further transactions
  - Validates the customer's information
  - System should protect customer's information
21. Develop an application for a shopping cart with following operations:
  - Manage and display the catalog
  - Add, Update and delete the products
  - Process the shipping info
  - Stores the order info
  - Display the summary
22. Display the most popular item to your customer which is purchased the most? If the item is in top 5 display the description to the customer.
23. Create a database application for social gathering containing
  - Information about the location (eg: club house, Party venue)
  - Facilities available in the venue
  - Booking for the specific events
  - Display the booking details for current month and also generate the report for the bill to be paid for a particular booking
24. Create a blog using WordPress
25. Develop CRUD implementation using Laravel