

Subject Code : 2CS2010207	Subject Title: PROGRAMMING WITH LINUX, APACHE, MYSQL AND PHP (LAMP)
Pre-requisite :	Programming Skills

Course Objective:

The objectives of the course are to:

- Extend proficiency in development of web application.
- Able to carry out the study of web page designing and database fundamentals.
- Get a good quality understanding of web applications of LAMP.

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture	Tutorial	Practical	Credit	Theory		Practical		Total
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
3	-	3	6	60	40	30	20	150

Subject Contents			
Sr. No	Topic	Total Hours	Weight (%)
1	Setting up Apache Web Server, MySQL and PHP Basics Apache Installation and Configuration Current and future versions of Apache, Choosing the Appropriate installation method, Installing apache on Linux platforms, Apache configuration file structure, Apache log files, Apache-related commands, Starting apache for the first time PHP Installation and Configuration Current and Future version of PHP/MySQL, Installing /Building PHP/MySQL on different platforms with apache, Php.ini Basics, The basics of PHP script	5	10
2	PHP Overview Flow control and building blocks Variables, Data types, Operators and expressions, Constants, Switching flow, Loops, Code blocks and browser Output. Working with Functions, Arrays and Objects What is a function, Calling function, Defining a function, Returning values from User-defined functions, Variable scope, Saving state between function calls with the static Statement, More about arguments, Testing for the existence of a function, What are Arrays, Creating arrays, Some array related functions, Creating an Object, Object inheritance, Formatting Strings with PHP, Investigating Strings in PHP, Manipulating Strings with PHP, Using Date and Time functions in PHP, Other String, Date and Time Functions	10	20
3	Working with Forms Creating a Simple Input Form, Accessing Form Input with User-Defined Arrays, Combining HTML and PHP Code on a Single Page, Using Hidden Fields to Save State, Redirecting the User, Sending Mail on form Submission, Working with File Uploads Uses of Java script Attaching external JavaScript, validating form fields using JavaScript, extending functionalities of form fields using JavaScript	10	20
4	Interacting with MySQL Learning the MySQL Data Types, Frequently used String functions in MySQL, Using Date and Time functions in MySQL, Using Transactions and Stored Procedures in MySQL. Interacting with MySQL using PHP, MySQL Versus MySQLi Functions, Connecting to MySQL with PHP, Working with MySQL Data	10	20
5	Working with Cookies, User Sessions, Files, Directories and Images Introducing Cookies, Setting a Cookie with PHP, Deleting a Cookie with PHP Session Function(s) Overview, Starting a Session, Working with Session Variables, Passing Session	15	30

	IDs in the Query String, Destroying Sessions and Un-setting Variables, Using Sessions in an Environment with Registered Users Including Files with include(), Validating Files, Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from files, Writing or Appending to a file, Working with Directories Opening Pipes to and from Processes Using popen(), Executing System Commands Understanding the Image Creation Process, Necessary Modifications to PHP, Drawing a New Image, Getting fancy with Pie Charts, Modifying Existing Images, Image Creation from User Input, Using Images Created by Scripts		
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Course Outcome:

At the end of this course, the student would be able

- To describe and use the LINUX operating system.
- To describe and write shell scripts in order to perform basic shell programming.
- To describe and understand the LINUX file system.
- To choose the appropriate web platform for their application using PHP.

List of References:

1. Teach yourself PHP, MySQL and Apache All in One , 5th Edition
2. Learning PHP, MySQL, books by ' O ' riley Press.
3. PHP: The Complete Reference , Steven Holzner, McGraw-Hill.

List of Experiments:

Note: The experiment list provided beneath is for reference only. The course teacher may Change/formulate it as per his/her methodology and requirement.

1. **Linux**
 - 1.1 Study of Unix/Linux general purpose utility command list.
 - 1.2 Test and run basic unix commands.
 - 1.3 Test and run Advanced unix commands
 - 1.4 Study of Vi Editor, Bash Shell, Bourne Shell and C shell in Unix/Linux OS.
 - 1.5 Create a shell script to print "hello Linux".
 - 1.6 Create a shell script to read and display content of a file.
 - 1.7 Create a shell script to add two numbers.
2. **PHP and MySql**
 - 2.1 Write a PHP script to display welcome message.
 - 2.2 Write a PHP script to demonstrate arithmetic operators, comparison operator, and logical operator.
 - 2.3 Write PHP Script to generate result and display grade.
 - 2.4 Write PHP Script to find maximum number out of three given numbers.
 - 2.5 Write PHP script to demonstrate Variable function.
 - 2.6 Write PHP script to demonstrate Array functions.
 - 2.7 Write PHP script to demonstrate string function.
 - 2.8 Write PHP script to demonstrate File functions.
 - 2.9 Create student registration form using text box, check box, radio button, select, submit button. And display user inserted value in new PHP page.
 - 2.10 Create a dynamic web site using PHP and MySQL.
 - 2.11 Write PHP script to demonstrate Statement Management Function.