

PARUL UNIVERSITY - Faculty of IT & Computer Science

Department of Computer Application

SYLLABUS FOR 1st Sem MCA, M.Sc. (IT) PROGRAMME

Open Source Technology Using PHP (05201204)

Type of Course: MCA, M.Sc. (IT)

Prerequisite: Working knowledge of HTML, JavaScript, CSS and database concepts.

Rationale: To be able to develop web application using open source technologies, PHP scripting language and deploying application on Apache Web Server, Apache Web Server configuration and MySQL database deployment for web applications.

Teaching and Examination Scheme:

Teaching Scheme			Credit	Examination Scheme					Total
Lect Hrs/ Week	Tut Hrs/ Week	Lab Hrs/ Week		External		Internal			
				T	P	T	CE	P	
3	0	4	5	60	30	20	20	20	150

Lect - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE** - CE, **T** - Theory, **P** - Practical

Contents:

Sr.	Topic	Weightage	Teaching Hrs.
1	Introduction to open source Softwares and their Configuration: Overview of Open Source Softwares, Widely used open source products, Development philosophy, Open source vs. closed source, Open source software vs. free software, Open source vs. source available, Pros and cons, Development tools, The distribution terms of open source software, open source technology importance, Free and Open Source Software (FOSS), Configuring apache, Configuring Mysql, Configuring PHP	15%	7
2	Overview of PHP structure and syntax: Background information of PHP, Using variables, operators and expressions. Conditional statements and iterations in PHP: Conditional Statements: if statement, switch statement. Looping: for loop, while loop, do...while statement, for each statement. Functions and Arrays in PHP: PHP functions, creating array. PHP image manipulation.	20%	9
3	Accessing Mysql with PHP: 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.	25%	10

4	Working with User Data and Error Handling: Handling HTML forms with PHP, Sessions, Cookies, Handling and avoiding errors, Exception handling, Using AJAX with PHP.	20%	10
5	Object Oriented Programming using PHP: Creating classes and objects in PHP, Working with methods, Inheritance, Constructors, Destructors, Self and parent keyword, Object cloning, Object Oriented Programming using MySQL DB.	20%	9

***Continuous Evaluation:**

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

Reference Books:

1. Professional LAMP: Linux, Apache, MySQL and PHP5 Web Development
Jason Gerner, Morgan Owens, Elizabeth Naramore, Matt Warden; WROX publication
2. Sams Teach Yourself PHP, MySQL and Apache All in One (TextBook)
Julie C Meloni; Pearson Education
3. Open source web development with LAMP
James Lee and Brent Ware; Pearson Education

Useful Links:

<https://sites.google.com/a/paruluniversity.ac.in/php/>
<http://www.php.net/>

Course Outcome:

After Learning the course the students shall be able to:

1. explain significance of open source technology.
2. design and develop data driven web application in PHP and MYSQL.
3. develop dynamic web applications using Ajax and object oriented principles in PHP.

List of Practical:

1. HTML Page Design

Design your Profile page with following details: - Personal Details - Educational Details - Profile Picture - Link of your workspace directory

2. Web Page design with CSS

Create a general stylesheet to apply on your developed webpages. [Use CSS class, CSS Groups and CSS tags]

3. Registration Form Web

Develop an online Admission Registration page.

4. Type Conversion through Script

Write a script to perform all possible type casting and conversion operations in PHP. Design output page in following format. Variable Name Variable Type Converted Type Converted Value

5. Webpage Development "Course Details"

Develop a webpage for "Course Details". Display all course names with different colors.

6. String Operations

Write a script to perform all possible string operations on given inputted string values. Design output page in following format. String value1 String Value2 Operation Result

7. Login and SignUp Page

Display Login and SignUp page and redirect to Profile or Registration page accordingly.

8. Student Result Generation System

Develop a Student Result Generation System. Provide following facilities: - Students Exam Detail Entry - Marks entry - Result Generation - Marksheet and Result Analysis

9. Date and Time Functions

Write a PHP script to demonstrate Date and Time functions. Display given date/time, operation and result.

10. Server-side Validations using regular Expression

Design online placement registration form. Check for the validity of entered fields using regular expressions.

11. Sending a Mail

Develop a php script to send a mail. [For Example: Forgot password recovery mail.]

12. Menu Driven Program

Write a menu driven program to perform various file operations. - Display size of file - Display Last Access, changed, modified time of file - Display details about owner and user of File - Display type of file - Delete a file - Copy a file - Traverse a directory in hierarchy - Remove a directory

13. Image Manipulation

Develop a web application to perform PHP image manipulation. Perform following tasks:

- Load image
- Resize image
- Crop image
- Merge (watermark)
- Output image to browser with format conversion.

14. Simple Image Gallery

Write a php script to design a simple gallery.

15. Error and Exception Handling

Develop a web application to perform Error and Exception Handling Operations. Implement proper requirements for demonstration.

16. Dynamic Search Box using AJAX

Develop a dynamic search box to find records using php and AJAX. [For Example: Google Search]

17. Event Webpage [Object Oriented Concepts]

Develop an online Event webpage. Provide admin to set font-size, color and event label for each event. Create Event class with constructor/Destructor. Use show_event() method to display event-list.

18. Object Oriented PHP Web Application

Create a web forum application that has a Member class for forum members containing methods such as createPost(), editProfile(), showProfile(). Create a class called Administrator that is a child of the Member class by adding extra methods such as createForum(), deleteForm() and banMember(). Override login() or logout method of parent class in child class.

19. PHP MySQL Database Connectivity

Create a skeleton of SubjectMIS class and define and implement methods to perform following MySQL functions on stored subject details: - Select, Insert, Delete, Update, Connect, Disconnect

20. Cricket Application using Interface

Define an interface for Cricket Game Activities. Implement this interface in a class. Write necessary class and member function definitions for a cricket player object. The program should accept details from user (player_code, name, runs, innings_played, no_of_times_out). The program should contain following menu. a) Enter details of players. b) Display average runs of a single player. c) Average runs of all players. d) Display the list of players in sorted order as per runs