

GUJARAT TECHNOLOGICAL UNIVERSITY

Master in Computer Application (Integrated MCA)

Year III – (Semester-V) (W.E.F. June 2015)

Subject Name: Web Development Tools (WDT)

Subject Code: 4450602

1. Learning Objectives:

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

2. Prerequisites: Knowledge of Internet, HTML, JavaScript, LINUX,CSS and Database Concepts

3. Contents:

| Unit No. | CourseContent | No of Lectures |
|----------|--|----------------|
| I | Setting up MySQL, Apache Web Server and PHP 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 scripts | [04] |
| II | PHP Overview Flow control and building blocks Variables, Data types, Operators and expressions, Constants, Switching flow, Loops, Code blocks and browser Output. | [04] |
| III | 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. | [08] |

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| | 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, | |
| IV | <p>Working with Forms & MySQL 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</p> <p>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</p> | [10] |
| V | <p>Working with Cookies, User Sessions, Files, Directories and Images</p> <p>Introducing Cookies, Setting a Cookie with PHP, Deleting a Cookie with PHP, Session Function Overview, Starting a Session, Working with Session Variables, Passing Session IDs in the Query String, Destroying Sessions and Unsetting 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(), Running Commands with exec(), Running Commands with system() or passthru(), 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.</p> | [12] |
| VI | <p>AJAX and JQUERY</p> <p>AJAX: Exploring AJAX, AJAX Web Application Model, How AJAX works? Creating a simple AJAX Application. Exploring interactions between AJAX and PHP, Validating Fields using AJAX and PHP, retrieving data from a Database using PHP and AJAX</p> <p>JQUERY Exploring Fundamentals of JQUERY, Loading and using JQUERY, Describing call back functions, Exploring JQUERY Selectors, Methods, Manipulators, events and effects, Exploring JQuery and AJAX</p> | [10] |

4. Reference Book(s):

1. Julie C Meloni, "Sams Teach Yourself PHP, MySQL and Apache All in One" 4th edition, Pearson Education
2. HTML5 Black Book: Covers CSS3, Javascript, XML, XHTML, Ajax, PHP and JQuery, by Kogent Learning Solutions Inc.

5. Suggested Additional Reading:

1. Books

- a. James Lee and Brent Ware, “Open source web development with LAMP” , Pearson Education
- b. Jason Gerner, Morgan Owens, Elizabeth Naramore, Matt Warden, “Professional LAMP: Linux, Apache, MySQL and PHP5 Web Development” WROX publication
- c. PHP6 and MySQL Bible –Steve Suehring, Tim Converse and Joyce Park – Wiley India Edition.
- d. PHP and MySQL Web Development – Luke Welling, Laura Thomson – Pearson
- e. Beginning Ajax with PHP From Novice to Professional, By Lee BabinApress
- f. Head First AJAX by Rebecca Riordan , O’Reilly Media
- g. Head First PHP& MySQL by Lynn Beighley, Michael Morrison, O’Reilly Media
- h. Head First jQuery by Ryan Benedetti and Ronan Cranley, O’Reilly Media
- i. Learning jQuery By Jonathon chaffer and Karl Swedberg, O’Reilly Media

2. List of Software/Learning Websites

- a. <http://www.codecademy.com/learn>
- b. <https://www.udemy.com/learn-html5-programming-from-scratch/>
- c. <http://www.w3schools.com>
- d. <http://www.tutorialspoint.com/ajax/>
- e. <http://www.tutorialspoint.com/jquery/>
- f. <http://www.tutorialspoint.com/php>

6. Chapter wise Coverage from Main Reference Book(s):

| Book# | Unit | Topics |
|-------|------|--|
| 1 | I | Chapter 2 (Page 21 to 32), 3, 4 |
| | II | Chapter 5,6 |
| | III | Chapter 7,8,9,10 |
| | IV | Chapter 11, 16,17,18 |
| | V | Chapter 12,13,14 |
| II | VI | Chapter 33 (Page 916 to 932), Chapter 37 (Page 1043 to 1068) |
| | VI | Chapter 39 |

7. Accomplishments of the student after completing the Course:

- Ability to install and configure MySQL, Apache and PHP.
- Ability to develop web based applications using PHP interacting with database.
- Ability to set & access cookies & session variables, Upload a file in PHP.
- Ability to validate forms using AJAX
- Ability to integrate AJAX and JQUERY in PHP