

A.P. State Council of Higher Education  
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four -year B.Sc.(Hons)  
Domain Subject: **Computer Science**  
IV Year B. Sc.(Hons) – Semester – V

Max Marks: 100 + 50

**Course 7A: Web Applications Development using PHP & MYSQL**  
(Skill Enhancement Course (Elective), Credits: 05)

**I. Learning Outcomes:**

Students after successful completion of the course will be able to:

1. Write simple programs in PHP.
2. Understand how to use regular expressions, handle exceptions, and validate data using PHP.
3. Apply In-Built functions and Create User defined functions in PHP programming.
4. Write PHP scripts to handle HTML forms.
5. Write programs to create dynamic and interactive web based applications using PHP and MYSQL.
6. Know how to use PHP with a MySQL database and can write database driven web pages.

**II. Syllabus:** *(Total Hours: 90 including Teaching, Lab, and Field training, Unit tests etc.)*

**Unit-1:** (10 hours)

The Building blocks of PHP: Variables, Data Types, Operators and Expressions, Constants. Flow Control Functions in PHP: Switching Flow, Loops, Code Blocks and Browser Output. Working with Functions: What is function?, Calling functions, Defining Functions, Returning the values from User-Defined Functions, Variable Scope, Saving state between Function calls with the static statement, more about arguments.

**Unit-2:** (10 hours)

Working with Arrays: What are Arrays? Creating Arrays, Some Array-Related Functions. Working with Objects: Creating Objects, Object Instance Working with Strings, Dates and Time: Formatting strings with PHP, Investigating Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.

**Unit-3:** (10 hours)

Working with Forms: Creating Forms, 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, and Working with File Uploads. Working with Cookies and User Sessions: Introducing Cookies, Setting 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.

**Unit-4:** (10 hours)

Working with Files and Directories: 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, Open Pipes to and from Process Using popen(), Running Commands with exec(), Running Commands with system() or passthru().

Working with Images: 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.

#### **Unit-5: (10 hours)**

Interacting with MySQL using PHP: MySQL Versus MySQLi Functions, Connecting to MySQL with PHP, Working with MySQL Data. Creating an Online Address Book: Planning and Creating Database Tables, Creating Menu, Creating Record Addition Mechanism, Viewing Records, Creating the Record Deletion Mechanism, Adding Sub-entities to a Record.

### **III. References**

1. Julie C. Meloni, SAMS Teach yourself PHP MySQL and Apache, Pearson Education (2007).
2. Steven Holzner, PHP: The Complete Reference, McGraw-Hill
3. Robin Nixon, Learning PHP, MySQL, JavaScript, CSS & HTML5, Third Edition O'reilly, 2014
4. Xue Bai Michael Ekedahl, The web warrior guide to Web Programming, Thomson (2006).
5. Web resources:
  - e. <http://www.codecademy.com/tracks/php>
  - f. <http://www.w3schools.com/PHP>
  - g. <http://www.tutorialpoint.com>
6. Other web sources suggested by the teacher concerned and the college librarian including reading material.

### **IV. Co-Curricular Activities:**

**a) Mandatory:** (*Training of students by teacher in field related skills: (lab: 10 + field: 05) :*

1. **For Teacher:** Field related training of students by the teacher in laboratory/field for not less than 15 hours on demonstrating various **interactive and dynamic websites** available online, addressing the students on identifying the case study to build an interactive and database driven website, forms to be used in website, database to be maintained, reports to be produced, etc.
2. **For Student:** Students shall (individually) search online and visit any of the agencies like malls, hotels, super bazaars, etc. where there is a need for an interactive and database driven website and submit a hand-written Fieldwork/Project work/Project work/Project work/Project work Report not exceeding 10 pages. Example: Choosing a firm or business to develop a website, identifying forms to be placed in the websites, back end databases to be maintained and reports to be generated and placed in the websites.
3. Max marks for Fieldwork/Project work/Project work/Project work/Project work/Project work Report: 05.

4. Suggested Format for Fieldwork/Project work/Project work/Project work/Project work:  
*Title page, student details, index page, details of place or websites visited, structure of the website and acknowledgements.*
5. Unit tests (IE).

#### **b) Suggested Co-Curricular Activities**

1. Arrange expert lectures by IT experts working professionally in the area of web content development
2. Assignments (in writing or implementing contents related to syllabus or outside the syllabus. Shall be individual and challenging)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation by students on best websites.
5. Arrange a webpage development competition among small groups of students.

### **Course 7A: Web Applications Development using PHP & MYSQL– PRACTICAL SYLLABUS**

#### **V. Learning Outcomes:**

On successful completion of this practical course, student shall be able to:

1. Write, debug and implement the Programs by applying concepts and error handling techniques of PHP.
2. Create an interactive and dynamic website.
3. Create a website with reports generated from a database.
4. Write programs to create an interactive website for e-commerce sites like online shopping, etc.

#### **VI. Practical (Laboratory) Syllabus: (30 hrs.)**

1. Write a PHP program to Display “Hello”
2. Write a PHP Program to display the today’s date.
3. Write a PHP program to display Fibonacci series.
4. Write a PHP Program to read the employee details.
5. Write a PHP program to prepare the student marks list.
6. Write a PHP program to generate the multiplication of two matrices.
7. Create student registration form using text box, check box, radio button, select, submit button. And display user inserted value in new PHP page.
8. Create Website Registration Form using text box, check box, radio button, select, submit button. And display user inserted value in new PHP page.
9. Write PHP script to demonstrate passing variables with cookies.
10. Write a program to keep track of how many times a visitor has loaded the page.
11. Write a PHP application to add new Rows in a Table.
12. Write a PHP application to modify the Rows in a Table.
13. Write a PHP application to delete the Rows from a Table.
14. Write a PHP application to fetch the Rows in a Table.
15. Develop an PHP application to implement the following Operations

- i. Registration of Users.
  - ii. Insert the details of the Users.
  - iii. Modify the Details.
  - iv. Transaction Maintenance.
    - a) No of times Logged in
    - b) Time Spent on each login.
    - c) Restrict the user for three trials only.
    - d) Delete the user if he spent more than 100 Hrs of transaction.
16. Write a PHP script to connect MySQL server from your website.
17. Write a program to read customer information like cust-no, cust-name, item-purchased, and mob-no, from customer table and display all these information in table format on output screen.
18. Write a program to edit name of customer to “Kiran” with cust-no =1, and to delete record with cust-no=3.
19. Write a program to read employee information like emp-no, emp-name, designation and salary from EMP table and display all this information using table format in your website.
20. Create a dynamic web site using PHP and MySQL.
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