

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL
(Formerly West Bengal University of Technology)
Syllabus of BCA
(Effective from 2023-24 Academic Sessions)

SEMESTER: V

DEFINITION OF CREDIT

1 HR LECTURE PER WEEK	1 CREDIT
1 HR TUTORIAL PER WEEK	1CREDIT
2 HR PRACTICAL PER WEEK	1 CREDIT

SUBJECT NUMBERING SCHEME:

CODE FOR THE DEPT. OFFERING SUBJECT	SUBJECT TYPE	SEM	SUBJECT CODE
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C	CORE MAJOR
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SUBJECT NAME: PHP WITH MYSQL
SUBJECT CODE: BCAC501

Credit: 5 (3L + 2P)

COURSE OBJECTIVE:

The primary objective of the PHP with MySQL course is to equip students with the knowledge and skills necessary to design and develop dynamic, data-driven web applications. Through this course, students will learn the fundamentals of server-side scripting using PHP, understand how to interact with MySQL databases for data storage and retrieval, and apply best practices in web development, including security, error handling, and efficient coding techniques. By the end of the course, students will be able to create fully functional web applications that are secure, scalable, and maintainable, preparing them for further studies or entry-level roles in web development.

COURSE OUTCOME	
	Description
CO1	Understand the fundamentals of web development, PHP syntax, and MySQL database management.
CO2	Develop dynamic web pages using PHP by incorporating server-side scripting and user input handling.
CO3	Implement database-driven web applications by integrating PHP with MySQL to perform CRUD operations with proper session management and Error handling.

CO4	Demonstrate knowledge of advanced PHP concepts such as OOP, security measures, and API integration.
CO5	Design, develop, and deploy a web project using the PHP framework

DETAILED SYLLABUS:

Module No:	NAME OF THE TOPIC	HOURS	MARKS
1	Introduction to Web Development: Overview of web development, server vs. client-side, HTML basics, introduction to PHP and MySQL Setting up Environment: Installation of XAMPP/WAMP, introduction to Apache, MySQL, and PHP. Configuring a development environment	4	5
2	PHP Basics: PHP syntax, variables, data types, operators, and control structures. Functions in PHP: Defining and using functions, function scope, including files, and built-in functions Arrays and Strings: Working with arrays, array functions, string manipulation, and string functions	8	10
3	Forms Handling and User Input: Handling form data, GET vs. POST methods, validating and sanitizing user input	4	5
4	PHP and MySQL Integration: Connecting PHP to MySQL, executing queries, retrieving data, and displaying data in web pages Implementing Create, Read, Update, Delete (CRUD) operations using PHP and MySQL	6	10
5	Session Management: Understanding sessions and cookies, creating and managing sessions in PHP. User authentication: Building User Login system , Password Hashing. Error Handling and File Handling In PHP: Reading, Writing and uploading files. Security in PHP: SQL injection prevention, XSS protection, securing file uploads.	4	15
6	Advanced PHP Concepts: Object-Oriented PHP, classes, objects, inheritance, and PHP's built-in OOP features	5	5
7	Introduction to PHP Frameworks: Overview of popular PHP frameworks (e.g., Laravel, CodeIgniter), basic MVC architecture concepts	6	10

8	Laravel FrameWork: Introduction to Laravel, Understanding routing in Laravel, creating and using controllers, passing data to views, and route parameters. Introduction to Blade templating, using Blade directives, template inheritance, and displaying data in views. Overview of Eloquent ORM, defining models, basic CRUD operations, database migrations, and relationships.	8	10
	INTERNAL EXAMINATION	3	30
	TOTAL	48	100

Practical:

SUBJECT NAME: PHP WITH MYSQL LAB
SUBJECT CODE: BCAC591

Credit: 2

The practical classes should comprehensively cover the theoretical syllabus, including the implementation of a small-scale project to enhance conceptual understanding and enable students to learn how to apply their knowledge to solve real-world problems

List of Sample Questions

User Registration and Login System

- **Case Study:** A website needs a secure system for user registration and login, allowing users to create accounts and access personalized content.

Develop a PHP and MySQL-based system where users can register with a username and password, and log in to access their profile page. Implement password hashing for security.

2. Content Management System (CMS)

- **Case Study:** A blog site requires a CMS that allows authors to write, edit, and publish articles.

Design a CMS using PHP and MySQL where authors can log in, create new posts, edit existing posts, and delete posts. The system should display posts to the public in a structured format.

3. Online Voting System

- **Case Study:** An organization wants to conduct online elections where members can vote for their preferred candidates.

Create a PHP and MySQL-based voting system where users can register, vote for candidates, and view voting results. Ensure that each user can vote only once.

4. E-commerce Product Catalog

- **Case Study:** An online store needs to manage its product catalog, allowing users to browse products by category and view product details.

Implement a product catalog system in PHP and MySQL where users can browse products by category, search for specific products, and view detailed descriptions and prices.

5. Event Management System

- **Case Study:** A company needs a system to manage events, including registration, scheduling, and participant lists.

Develop a PHP and MySQL-based event management system where users can register for events, view event schedules, and check participant lists.

6. Forum or Discussion Board

- **Case Study:** A community website needs a forum where users can post topics, reply to discussions, and view threads.

Build a forum using PHP and MySQL where users can create new discussion threads, reply to existing threads, and manage their posts. Implement user authentication to control access.

SUGGESTED READING:

- **Gilmore, W. J. (2010).** *Beginning PHP and MySQL: From Novice to Professional* (4th ed.). Apress.
- **Naramore, E., Gerner, J., Scouarnec, Y. L., Stolz, J., & Glass, M. (2005).** *Beginning PHP5, Apache, and MySQL Web Development*. Wiley India Pvt. Ltd.
- **Welling, L., & Thomson, L. (2009).** *PHP and MySQL Web Development* (4th ed.). Pearson Education.
- **Beighley, L., & Morrison, M. (2008).** *Head First PHP & MySQL*. O'Reilly Media.
- **Powers, D., & McGrath, M. (2015).** *PHP & MySQL in Easy Steps*. McGraw Hill Education.
- **Robson, E., & Freeman, E. (2007).** *Head First PHP & MySQL*. O'Reilly Media.
- **Gosselin, D., Kokoska, R., & Easterbrooks, P. (2010).** *PHP Programming with MySQL: The Web Technologies Series* (2nd ed.). Cengage Learning.