COURSE MODULE: PHP AND SQL

Course Coordinator: Prof. Keerthi H				**Academic Year:** 2025-26	
Department: Bachelors of Computer Application					
Course Code	**Course Title**	**Core/Elective**	**Prerequisite**	**Contact Hours** L: T: P: S	**Total Hrs/ Sessions**
BBCA401	PHP and SQL	IPCC	BASIC KNOWLEDGE OF HTML, SQL, DATABASES, AND SERVER CONCEPTS IS REQUIRED.	2:0:2:0	28(TH) + 20(LAB)

Course Learning Objective:

The course will enable the students to:

1. Understand the fundamentals of PHP programming, including variables, operators, constants, and data types.
2. Develop program logic using conditional statements, loops, and string manipulation techniques.
3. Implement array handling and date/time functions for efficient data processing in PHP.
4. Design reusable code components using functions and object-oriented programming principles, and perform file/directory operations.
5. Integrate PHP with databases (MySQL, SQLite) to store, retrieve, and manipulate data securely using SQL and PHP database extensions.

Teaching-Learning Process (General Instruction):

1. Adopt different types of teaching methods to develop the outcomes through PowerPoint presentations and Video demonstrations.
2. Adopt collaborative (Group Learning) Learning in the class.
3. Adopt Problem Based Learning (PBL), which fosters Students Analytical skills and develops thinking skills such as evaluating, generalizing, and analyzing information.

MODULE-1

INTRODUCING PHP: Basic Development Concepts, Creating First PHP Scripts, Using Variable and Operators, Storing Data in Variable, Understanding Data type, Setting and Checking Variables, Data types, Using Constant, Manipulating Variables with Operators, Handling Form Input.

MODULE-2

CONTROLLING PROGRAM FLOW: Writing Simple Conditional Statements, Writing More Complex Conditional Statements, Repeating Action with Loops, Working with String and Numeric Functions.

MODULE-3

WORKING WITH ARRAYS: Storing Data in Arrays, Processing Arrays with Loops and Iterations, Using Arrays with Forms, Working with Array Functions, Working with Dates and Times.

MODULE-4

FUNCTIONS AND CLASSES: Creating User-Defined Functions, Creating Classes, Using Advanced OOP Concepts.

WORKING WITH FILES AND DIRECTORIES: Reading Files, Reading Local Files, Reading Remote Files, Reading Specific Segments of a File, Writing Files, Reading and Writing Configuration Files, Processing Directories, Performing Other File and Directory Operations, Creating a Photo Gallery.

MODULE-5

Working with Databases and SQL: Introducing Databases and SQL, Understanding Databases, Records, and Primary Keys, Understanding Relationships and Foreign Keys, Understanding SQL Statements, Using PHP's MySQLi Extension, Retrieving Data, Adding or Modifying Data, Handling Errors, Using PHP's SQLite Extension, Introducing SQLite, Retrieving Data, Adding or Modifying Data, Handling Errors, Using PHP's PDO Extension, Retrieving Data, Adding and Modifying Data, Handling Errors, Using a MySQL Database.

TLP: PowerPoint Presentation, Chalk and Talk

PRACTICAL CONTENT FOR IPCC

SI. NO	EXPERIMENTS
1	Develop a PHP program to convert Dollar into Rupee.
2	Develop a PHP program to test odd and even number.
3	Develop a PHP program to assign the scouts to tents based on their age.
4	Develop a PHP program to calculate factorial of a number.
5	Develop a PHP program to display count of distinction and failed students in a subject.
6	Develop a PHP program to enter your date of birth and calculate how old you are today, in years and months.
7	Develop a PHP program to calculate GCF and LCM.
8	Develop a PHP program to demonstrate constructors and destructors.
9	Develop a PHP program to copy a file without using built-in function.
10	Develop a PHP code to read the values entered into the form using the MySQL database.

Course Outcome:

At the end of the course, the student will be able to:

CO1. Write and execute PHP scripts that demonstrate variable handling, operators, and constants effectively.

CO2. Apply control structures such as loops and conditional statements to solve programming problems.

CO3. Manipulate arrays and process date/time data using built-in PHP functions.

CO4. Create user-defined functions, classes, and perform advanced OOP and file-handling operations for real-world applications.

CO5. Build dynamic database-driven applications by integrating PHP with SQL using MySQLi, PDO, or SQLite extensions.

ASSESSMENT DETAILS (BOTH CIE AND SEE) OF INTEGRATED COURSES:

To satisfy academic requirements and earn credits for each subject/course, students must meet the following criteria:

- Secure at least 40% (20/50 marks) in Continuous Internal Evaluation (CIE)
- Obtain a minimum of 35% (18/50 marks) in the Semester End Exam (SEE)
- Achieve a combined total of at least 40% (40/100 marks) in both CIE and SEE

CONTINUOUS INTERNAL EVALUATION:

(CIE Marks Breakdown)

- Theory Component: 25 marks
  - Internal Assessment Tests: 15 marks (2 tests, each 15 marks, 1-hour duration)
    - Test 1: After covering 40-50% of the syllabus
    - Test 2: After covering 85-90% of the syllabus
  - Other Assessment Methods: 10 marks
- Practical Component: 25 marks

CIE Marks Calculation

- The sum of marks from the two tests and other assessment methods will be scaled down to determine the CIE marks for the theory component (out of 25 marks).

Qualifying Criteria

- To qualify in the CIE of the theory component, students must secure at least 40% of 25 marks, i.e., 10 marks.

CIE for Practical Component of IPCC

Evaluation Criteria:

- Laboratory Record and Experimentation: 15 marks
  - Evaluation of laboratory record and experimentation (including viva-voice) after each experiment/program
  - Marks awarded on the same day
- Laboratory Test: 10 marks
  - Test conducted after completion of all laboratory sessions (duration: 2-3 hours)
  - Originally marked out of 50, scaled down to 10 marks

CIE Marks Calculation:

- Write-up Evaluations: Marks awarded for each experiment report (out of 10) added and scaled down to 15 marks

- Total CIE Marks: Scaled-down marks of write-up evaluations and laboratory test added to give CIE marks for the practical component (out of 25)

Qualifying Criteria:

- To qualify in the CIE of the practical component, students must secure at least 40% of 25 marks, i.e., 10 marks

SEMESTER END EXAMINATION (SEE) FOR IPCC

Theory SEE:

- Conducted by the University as per the scheduled timetable
- Common question papers for the course (duration: 3 hours)

Question Paper Structure:

- 10 questions, each worth 20 marks
- 2 questions from each module, with a mix of topics under each module (max. 3 sub questions per question)
- Students must answer 5 full questions, selecting one from each module

Marking Scheme:

- Marks scored will be proportionally scaled down to 50 marks

IPCC Examination Structure:

- Theory portion: Both CIE and SEE components
- Practical portion: CIE component only (no SEE)
- Note: SEE questions may include topics from the practical component

List of Textbooks

Suggested Learning Resources:

Books

1. PHP A Beginner‟s Guide, VIKRAM VASWANI, Tata McGraw-Hill, 2008.

Reference Books

1. The PHP Complete Reference, Steven Holzner –Tata McGraw-HillEdition,2010
2. Spring into PHP5, Steven Holzer, Tata McCraw HillEdition,2005

Web links and Video Lectures (e-Resources):

- https://www.phptutorial.net/
- https://spoken-tutorial.org/ (PHP and MySQL)

The Correlation of Course Outcomes (CO's) and Program Outcomes (PO's)

SUBJECT CODE: BBCA401			TITLE: PHP AND SQL						FACULTY: KEERTHI H		
List of Course Outcomes	Program Outcomes										
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO-1											
CO-2											
CO-3											
CO-4											
CO-5											
Total											

Note: 3 = Strong Contribution 2 = Average Contribution 1 = Weak Contribution - = No Contribution