

The Maharaja Sayajirao University of Baroda Polytechnic Higher Payment Program Diploma in Computer Engineering			ACADEMIC YEAR 2021-2022	
Year - III	Open Source Programming (CSE3518)	Lecture Hrs per week	4	
Semester - I		Max marks	100	
Pre-Requirement: OOP Concepts, DBMS, SQL				
CO1	Explain the fundamentals of open-source programming and PHP scripting including basic syntax, execution and integrating PHP with HTML.			
CO2	Apply variables, operators, control structures, loops, and built-in functions to develop logical and interactive PHP programs.			
CO3	Use arrays, functions and form handling techniques to process and organize data efficiently in PHP applications.			
CO4	Develop modular and object-oriented PHP applications using user-defined functions, classes, constructors, inheritance and advanced OOP concepts.			
CO5	Implement file handling, cookies, sessions and database connectivity to build dynamic and data-driven web applications.			
BT	1. Remember 2. Understand 3. Application 4. Analysis 5. Evaluation 6. Creation			
COURSE CONTENT/SYLLABUS				
Unit	Unit Name	Hrs	Weightage	CO
1	Overview of Open Source Programming: Concept of open source programming, Unique Features, Basic Development Concepts, Creating Your First PHP Script, Writing and Running the Script, Understanding the Script, Handling Script Errors, Mixing PHP with HTML, Escaping Special Characters, Applications.	6	12	CO1
2	Variables and Operators: Operations on Variables, Data Types, Setting and Checking Variable Data Types, Using Constants, Manipulating Variables with Operators, Performing Arithmetic Operations, Concatenating Strings, Comparing Variables, Performing Logical Tests. Controlling Program Flow: Simple Conditional Statements: The if Statement, The if-else Statement, The if-elseif-else Statement, The switch-case Statement, Combining Conditional Statements, Repeating Actions with Loops, The while Loop, The do-while Loop, The for Loop, Combining Loops, Interrupting and Skipping Loops, Working with String and Numeric Functions, Using String Functions, Using Numeric Functions.	10	16	CO2
3	Working with Arrays: Storing Data in Arrays, Assigning Array Values, Modifying Array Values, Retrieving Array Size, Nesting Arrays, Processing Arrays with Loops and Iterators, The foreach Loop, The Array Iterator, Using Arrays with Forms, Working with Array Functions, Working with Dates and Times, Generating Dates and Times, Formatting Dates and Times, Useful Date and Time Functions.	12	20	CO2, CO3
4	Using Functions and Classes: Creating User-Defined Functions, Creating and Invoking Functions, Using Arguments and Return Values, Setting Default Argument Values, Using Dynamic Argument Lists, Understanding Variable Scope, Using Recursive Functions, Creating Classes, Introducing Classes and Objects, Defining and Using Classes, Using Advanced OOP Concepts, Using Constructors and Destructors, Extending Classes, Adjusting Visibility Settings, Generating Form Selection Lists.	8	14	CO2, CO3, CO4
5	Working with Files and Directories: Reading Files: Local Files, Remote Files, Reading Specific Segments of a File, Writing Files, Processing Directories, Performing Other File and Directory Operations, Creating a Photo Gallery.	12	22	CO2, CO5

	Working with Databases and SQL: Overview to Databases and SQL: Databases, Records, Primary Keys, Relationships, Foreign Keys, SQL Statements, Creating the Database: Adding Tables, Adding Records, Using PHP's MySQLi Extension, Retrieving Data, Adding or Modifying Data, Handling Errors. Using PHP's SQLite Extension: Retrieving Data, Adding or Modifying Data, Handling Errors.			
6	Working with XML: XML Basics: Anatomy of an XML Document, Well-Formed and Valid XML, XML Parsing Methods, XML Technologies, Creating an XML Document, Simple XML Extension: Working with Elements, Working with Attributes, Converting XML to SQL, Altering Element and Attribute Values, Adding New Elements and Attributes, Creating New XML Documents Working with Cookies, Sessions, and Headers: Working with Cookies: Basics, Attributes, Headers, Setting Cookies, Reading Cookies, Removing Cookies, Working with Sessions: Basics, Creating Sessions and Session Variables, Removing Sessions and Session Variables, Using HTTP Headers, Troubleshooting.	10	16	CO5
		58	100	
REFERENCE BOOKS:				
1.	PHP: The Complete Reference by Steven Holzner			
2.	PHP: A Beginners Guide by Vikram Vaswani			