GOVERNMENT POLYTECHNIC, AMRAVATI

(AN AUTONOMOUS INSTITUTE OF GOVT. OF MAHARASHTRA)

CURRICULUM DEVELOPMENT CELL

CURRICULUM 2023 (FIFTH REVISION)

PROGRAMME TITLE: DIPLOMA IN CM ENGG

COURSE CODE: FC4505

COURSE TITLE: WEB APPLICATION DEVELOPMENT USING PHP (WDP)

LEARNING SCHEME:

LEVEL OF COURSE	PRERE-QUISITE	Total IKS HRS	WEEKLY CONTACT HRS.			WEEKLY SL HRS.	TOTAL CREDITS	TOTAL WEEKS	TOTAL CONTACT HOURS		
			CL	TL	LL				CL	TL	LL
IV	-	-	02	-	04	00	03	15	30	00	60

ASSESSMENT SCHEME:

PAPER DURATION (HRS)			THEORY-CL (Marks)			PRACTICAL-LL (Marks)		SELF LEARNING - SLA (Marks)	TOTAL (Marks)
TH-FA	TH-SA		TH -FA	TH-SA	TOTAL	PR-FA^	PR-SA		
-	-	MAX	---	---	---	25	50#	--	75
		MIN.	---	---	---	10	20	--	30

Abbreviations: CC—Common Course, FC – Fractional Course, ME – Mechanical Engineering (Programme Specific Course), IKS- Indian Knowledge System, CL – Classroom Learning, TL –Tutorial Learning, LL – Laboratory Learning, SL – Self Learning, FA – Formative Assessment, SA – Summative Assessment, TH – Theory, PR – Practical, SLA – Self Learning Assessment. **Legends:** @ - Internal Assessment, # - Internal & External Assessment, $ - Online MCQ Examination, * - FA-TH 30 Mark constitutes two parts one is 20 marks for Formative Assessment Test and other is 10 marks for Tutorial Learning Assessment. ^ - Under practical FA, Continuous Assessment of Practical Work is to be done by Course Teacher as per CDC norms and rubrics.

Note: 1. Under the Theory FA, final marks are the Average of Two FA Tests to be conducted as per academic calender of the term.

2. Question paper for TH-FA and TH-SA shall be set as per CDC norms and specification table.

Under the head SL Assessment, Assignment, Micro Activity, Presentation, Seminar, related to course is to be assessed by course teacher as per CDC norms and rubrics.

3. PR-SA to be conducted with practical based individual performance and related viva.

1. RATIONALE:

Hypertext Preprocessor (PHP) is a general purpose, server-side scripting language run a web server that's designed to make dynamic pages and applications. PHP as a web development option is secure, fast and reliable. In the growing field of Web technology, it is essential for every Diploma pass outs to learn PHP Language to help them build interactive web applications. This course is designed to inculcate web based applications development skills in students using server side scripting with PHP.

2. COURSE OUTCOMES (COs):

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

1. Develop program using control statement Perform operations based on arrays
2. Develop programs by applying various object oriented concepts.
3. Use form controls to collect user's input.
4. Perform database operations and Develop programs to perform various operations on files in PHP.

3. DETAILED CONTENTS: THEORY-CL

Unit / CO No	Major Learning Unit Outcomes (in cognitive domain)	Topics and Sub-topics	Hrs.	Marks
Unit I / CO1 **Expression and Control ,Statements, arrays inPHP**	1aWrite simple PHP program to solve the given expression. 1b. Use relevant decision Making Control Statement To solve the given problem 1c. Solve the given Iterative problem Using relevant loop Statement. 1d. Manipulate the given Type of arrays to get the desired result.	1.1. History and Advantages ofPHP, Syntax of PHP. 1.2. Variables, Data types, Expressions and operators, constants 1.3.Decision making Control statements if, if-else, nested if, switch, break and Continue Statement. 1.4. Loop control structure while, do-while, for and for each loop. 1.5. Creating and Manipulating Array, Types of Arrays- Indexed, Associative and Multi- dimensional arrays	08	--
Unit II / CO2 **Functions, Object Oriented Concepts in PHP**	2. a Apply the given string functions on the Character array. 2b Write constructor and destructor functions for the given problem In PHP. 2c Implement inheritance to extend the given base class. 2d Use overloading / overriding to solve the given problem.	2.1 Function and its types User defined function, Variable function. 2.2 Operations on String and String functions str_wordcount(), strlen(),strrev(), strpos(),strreplace(), ucwords(),strtoupper(), strtolower(),stremp(). 2.3 Creating Classes and Objects 2.4 Constructor and Destructor	08	--

		2.5 Inheritance, Overloading and Overriding.		
Unit III / CO3 **Creating and validating forms**	3a. Use the relevant form Controls to get user's Input. 3b. Design web pages Using Multiple Forms for the given problem. 3c. Apply the given Validation rules on Form. 3d. Set/ modify/ delete Cookies using cookies Attributes. 3e. Manage the given session using session variables	3.1 Creating a webpage using GUI Components, Browser Role-GET and POST methods, Server Role 3.2 Form controls: text box, text area, radio button, check box, list, buttons 3.3 Working with multiple forms a web page having many forms, form having multiple submit buttons. 3.4 Web page validation. 3.5 Cookies - Use of cookies, Attributes of cookies, create cookies, modify cookies value, and delete cookies. 3.6 Session - Use of session, Start session, get session variables, and destroy session.	08	--
Unit IV / CO4 **Database Operation and Files**	4a. Create database for the given problem Using PHP script 4b. Insert data in the Given database using PHP script. 4c. Apply the specified update operation in database record using PHP script 4d. Delete the given record from the database using PHP script 4e. Use different modes on files. 4f.Performoperations such as reading opening, reading operation on file	4.1 Introduction to MySQL Create a database. 4.2 Connecting to a MySQL database: MySQL Database Server from PHP. 4.3 Database operation Insert data, retrieving the Query result. 4.4 Update and delete operation on table data. 4.5. Files, different modes of files, File permission, Writing Files, File Open, File Read, File Close. Deleting Files	06	--

4. LIST OF PRACTICALS-LL

S. N	PRACTICAL LEARNING OUTCOMES (PLOs)	CO NO.
*1	a. Install and configure PHP, web server, MYSQL	CO1
*2	Write a simple PHP program using expressions and operators.	CO1
*3	Write a PHP program to demonstrate the use of Decision making control structures using If and If-else statement	CO1
*4	Write a PHP program to demonstrate the use of Decision making control structures using Switch statement	CO1
5	Write a PHP program to demonstrate the use of Looping structures using- While statement, Do-while statement.	CO1
*6	Write a PHP program to demonstrate the use of Looping structures using- For statement, for each statement.	CO1
*7	Write a PHP program for creating and manipulating Indexed array.	CO1
8	Write a PHP program for creating and manipulating Associative array	CO1
*9	Write a PHP program for creating and manipulating Multidimensional array	CO1
10	Write a PHP program to Calculate length of string.	CO2
*11	Write a PHP program to Count the number of words in string -without using string functions	CO2
12	Write a PHP program to demonstrate use of various Built-in string functions.	CO2
*13	Write a simple PHP program to demonstrate use of simple function And parameterized function.	CO2
*14	Write a PHP class 'Rectangle' that has properties for length and width. Implement methods to calculate the rectangle's area and perimeter.	CO2
*15	Write a class called 'Employee' that extends the 'Person' class and adds properties like 'salary' and 'position'. Implement methods to display employee details.	CO2
*16	Write a PHP program to Create constructor to initialize object of class by using object oriented concepts	CO2

*17	Design a web page using following form controls: a. Text box b. Radio button c. Check box d. Buttons	CO3
*18	Design a web page using following form controls: a. List box, b. Combo box, c.Hidden field box	CO3
19	Create a simple HTML form and accept the user name and display the name through PHP echo statement.	CO3
*20	Develop web page with data validation.	CO3
*21	Write a PHP script to set a cookie named "username" with the value "computer engineering" and an expiration time of one hour.	CO3
22	Write a PHP script to retrieve and display the value of the cookie named "username".	CO3
23	Write a PHP script to delete a cookie named "username".	CO3
*24	Write a PHP program to Demonstrate session Management	CO3
*25	Develop a simple application to Enter data into database	CO4
*26	Develop a simple application to Retrieve and present data from database	CO4
*27	Develop a simple application to Update, Delete table data from database.	CO4
*28	Write a PHP script to read the contents of the given file.	CO4
*29	Write a PHP script to write the contents of the given file.	CO4
*30	Write a PHP script to delete the given file.	CO4
*31	Write a PHP script to count the number of lines in a text file	CO4
32	Write a PHP script to rename a file.	CO4

(Practicals marked as * are compulsory)

Note:

i. A suggestive list of *PLOs* is given in the above table. More such *PLOs* can be added to attain the COs and competency. A judicial mix of minimum *12* or more practical need to be performed, so that the student reaches the 'Precision Level' of Dave's 'Psychomotor Domain

Taxonomy' as generally required by the industry.

ii. The 'Process ' and 'Product ' related skills associated with each PLO is to be assessed according to CDC norms and rubrics.

iii. The above *PLOs* also comprise of the following social skills/attitudes which are Affective Domain Outcomes (ADOs) that are best developed through the laboratory /field based experiences:

a. Follow safety practices.
b. Practice good housekeeping.
c. Practice energy conservation.
d. Handle equipment's carefully.
e. Plan for development of a program.
f. Demonstrate working as a leader / a team member.
g. Maintain hardware, tools and equipment.
h. Follow ethical practices.

The ADOs are not specific to any one *PLOs*, but are embedded in many *PLOs*. Hence, the acquisition of the ADOs takes place gradually in the student when s/he undertakes a series of practical experiences over a period of time. Moreover, the level of achievement of the ADOs according to Krathwohl's 'Affective Domain Taxonomy' should gradually increase as planned below:

- 'Valuing Level' in 1st year
- 'Organizing Level' in 2nd year and
- 'Characterizing Level' in 3rd year

5. SUGGESTED STUDENT SELF LEARNING ACTIVITIES:

Other than the classroom and laboratory learning, following are the suggested student-related ***co-curricular*** activities which can be undertaken to accelerate the attainment of the various outcomes in this course: Students should conduct at least ***01*** group activity and ***01*** individual activities *(to be continued throughout the term).* For the following suggested activities prepare reports of about 5 pages for each activity, also collect/record physical evidences for student's portfolio which will be useful for their placement interviews:

a. Students should prepare report on any micro activity related to course on different units as per the guidance of course teacher.
b. Prepare assignments on different units as per the guidance of course teacher
c. Prepare lab manual based on practical performed in laboratory.
d. Give seminar on relevant topic.
e. Library/E-Book survey regarding related course and prepare assignments on it for the course.
f. Prepare power point presentation or animation for demonstrating emerging activities/technology in the course.
g. Visit to institute/industry and prepare report.
h. Develop learning materials, models, charts related to topic, course.
i. Develop applications/ activities related to course which may be useful to society.
j. Learning through various online platforms such as SWAYAM, Infosys Springboard, Spokentutorials etc. related to course.

6. SUGGESTED INSTRUCTIONAL STRATEGIES

These are sample strategies, which the teacher can use to accelerate (if required), the attainment of the various outcomes in this course:

a. About ***10-15% of the topics/sub-topics*** which is relatively simpler or descriptive in nature is to be given to the students for self-directed learning and assess the attainment of COs through classroom presentations.
b. Use the proper equivalent analogy to explain different concepts.
c. Use simulators/Animation/Online Videos/Field Visits/ Expert Lectures for the understanding of concept.

7. MAJOR EQUIPMENTS / INSTRUMENTS REQUIRED

Sr No.	Equipment Name with Broad Specification	Practical No.
1.	Hardware : Computer system (i3 - i5 preferable)(Any computer system with basic configuration)	ALL
2.	Operating system : Windows / Linux	
3.	Any database tool such as MySQL, MariaDB or any equivalent tool	
4.	Hardware : Computer system (i3 - i5 preferable)(Any computer system with basic configuration)	

8. SUGGESTED SPECIFICATION TABLE FOR QUESTION PAPER DESIGN

N/A

9. QUESTION PAPER PROFILE

N/A

10. SUGGESTED LEARNING RESOURCES

SR.NO.	TITLE	AUTHOR	PUBLISHER
1.	Programming PHP	Rasmus Lerdorf, Kevin.T and Peter	O'Reilly, USA, ISBN -978-1-449 - 39277-2, 2018
2.	The Complete Reference PHP (Third Edition covers PHP)	M. Holzner, Steven	McGraw hill, New Delhi, ISBN 9780070223622, 2019.
3.	PHP and MySQL	McGrath, Mike	McGraw Hill, New Delhi, ISBN- 13: 978-1259029431
4	Advance Web Technology	Dr. Rajedra Kawle	Devraj Publication, ISBN- 978-93- 86492-01-2

11. SOFTWARE/LEARNING WEBSITES.

Sr.No	URL	QR Code	Contents
1	https://www.tutorialspoint.com/php/php_installation.htm		PHP Installation
2	https://www.w3schools.com/php/php_casting.asp		Type casting
3	https://www.guru99.com/what-is-php-first-php-program.html		First PHP Program
3	https://www.tutorialspoint.com/php/php_type_juggling.htm		Type juggling
4	https://www.w3schools.com/php/php_intro.asp		PHP Introduction
5	https://www.w3schools.com/php/php_forms.asp		Form Handling
6	https://www.phptutorial.net/php-tutorial/php-registration-form/		Design registration form
7	https://www.phptutorial.net/php-tutorial/php-open-file/		Open a file in PHP
8	https://www.phptutorial.net/php-tutorial/php-array-sort/		PHP Array sorting
9	https://www.phptutorial.net/php-tutorial/php-form-validation/		PHP form validation

12. CO-PO MAPPING

CO	PO1 Basic and Discipline knowledge	PO2 Problem analysis	PO3 design and development of solution	PO4 engineering tools and experimental and testing	PO5 The Engineer practices for Society	PO6 Project managemen	PO7 Lifelong learning	PSO1 Logic development and implementation	PSO2 Entrepreneurship
	Mark '3' for high, '**2**' for medium, '**1**' for low & '**0**' for the relevant correlation of each CO, PO								
1. Develop program using control statement Perform operations based on arrays	**1**	**2**	**1**	**1**	**0**	**1**	**2**	**3**	**2**
2. Develop programs by applying various object oriented concepts.	**2**	**3**	**1**	**2**	**0**	**1**	**2**	**3**	**2**
3. Use form controls to collect user's input	**2**	**3**	**1**	**2**	**0**	**1**	**2**	**2**	**1**
4. Perform database operations and Develop programs to perform various operations on files in PHP.	**2**	**3**	**1**	**2**	**0**	**1**	**2**	**2**	**1**

13. PERFORMANCE INDICATOR FOR LL

S. No.	Performance Indicators	Weightage in %
a.	Use of correct syntax/tools/equipment	20
b.	Correctness of algorithm/logic/operating equipment skillfully	20
c.	Debugging ability/observations/methodology	10
d.	Coding standards/safety measures/standard practices	10
e.	Quality of input and output	10
f.	Answer to sample questions	20
g.	Submission of report in time	10
	Total	100%

14. PERFORMANCE INDICATOR FOR TL

N/A

15. PERFORMANCE INDICATOR FOR SL

Note: Refer Rubrics for evaluation of practicals provided by CDC.

16. COURSE CURRICULUM DEVELOPMENT COMMITTEE:

SR. NO.	NAME	DESIGNATION	INDUSTRY/INSTITUTE
1	Mr. Vaibhav Ingole	Lecturer in Information Technology	Government Polytechnic Amravati
2	Mr. Gaurav Savant	Lecturer in Computer Engineering	Government Polytechnic Amravati

Programme Board of Studies (Computer Engineering), Government Polytechnic, Amravati has approved the above course curriculum on --/--/2024 and is adopted for Computer Engineering Programme.

CHAIRMAN
PROGRAMME BOARD OF STUDIES,
COMPUTER ENGINEERING
GOVERNMENT POLYTECHNIC,
AMRAVATI.

The Board of Studies has approved the above course curriculum on --/--/2024

The Governing Body has approved the above course curriculum on --/--/2024