



बिरसा मुंडा ट्रायबल युनिवर्सिटी Birsa Munda Tribal University

राजपिपला, जि० नर्मदा Rajpipla, Dist. Narmda

Established by Tribal Development Department, Govt. of Gujarat

School of Computer Science

P.G.D.C.A. (Post Graduate Diploma in Computer Applications) Programme

Subject Code & Name: PGDCA206-1 - Practical Based on PGDCA204-1 and PGDCA205-1

Teaching And Evaluation Scheme:

Teaching Scheme				Examination Scheme			
Credits				Component Weightage			
				CCE		SEE	
L	T	P	Total	TH	PWE	TH	PWE
-	-	4	4	-	50%	-	50%

Programme Name	P.G.D.C.A.
Semester	2
Course Code	PGDCA206-1
Course Title	Practical Based on PGDCA204-1 and PGDCA205-1
Course Content Type (Th. / Pr.)	Pr.
Course Credit	4
Sessions + Lab Per Week	4
Total Teaching/ Lab Hours	120
* 2 Lab = 1 session	

Learning Objectives

Upon successful completion of this course, students will be able to:

- Understand the fundamentals of PHP programming and server-side web development concepts
- Apply PHP programming constructs, forms, sessions, cookies, and file handling techniques to develop dynamic web applications



- Develop database-driven web applications using PHP and MySQL with CRUD operations and search functionalities
- Analyze web application security requirements and integrate AJAX, JSON, and MVC concepts for building interactive and secure web applications
- Understand the role of ICT tools in digital surveys, online data collection methods, questionnaire design, and ethical practices in data collection.
- Learn data collection, organization, cleaning, preprocessing, and spreadsheet-based data management techniques.
- Understand basic data analysis techniques, descriptive statistics, visualization methods, and dashboard tools for interpreting data.
- Learn report preparation, presentation techniques, data sharing methods, and ethical practices in reporting survey data.

Learning Outcomes

After successful completion of the course, students will be able to:

- Explain PHP syntax, operators, control structures, functions, and basic server-side scripting concepts
- Implement form handling, session management, cookies, arrays, and file operations using PHP
- Design and Develop database-integrated web applications using PHP and MySQL for real-world CRUD operations
- Build secure and interactive web applications using AJAX, JSON, exception handling, input validation, and MVC architecture concepts
- Create and manage online survey forms using digital tools such as Google Forms, SurveyMonkey, and Microsoft Forms.
- Collect, organize, clean, and manage survey data using Google Sheets and spreadsheet tools with appropriate data handling methods.
- Analyze datasets and generate meaningful insights using statistical methods, pivot tables, charts, graphs, and Power BI tools.
- Prepare professional reports and presentations using survey data while maintaining confidentiality and ethical use of information.

CLO–PLO Mapping Matrix:

CLOs/PLOs	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
CLO1	3	3	3	2	2	2
CLO2	3	3	3	3	2	2
CLO3	3	3	3	3	3	3
CLO4	2	2	3	3	3	3
CLO5	2	2	3	3	3	3
CLO6	2	1	2	3	3	3

L:: Lecture, **T::** Tutorial, **P::** Practical

CCE:: Continuous & Comprehensive Evaluation

(CCE theory includes Mid Semester Examination, Assignment, MCQ Quizzes, Seminar, Reflective Notes, Class Participation, Case Analysis and Presentation, Slip Tests (Announced/ Surprised), Attendance etc. or any combination of these)

PWE: Practical Work Examination

(PWE includes Laboratory Practical Work, Project Work, Viva simulation exercise work etc.)

SEE:: Semester End Evaluation

Sample Practical Exercises based on Subject PGDCA204-1- Web Programming Using PHP

1. Install and configure XAMPP/WAMP server and create a simple PHP page to display dynamic content.
2. Write a PHP program demonstrating variables, constants, data types, and operators.
3. Write a PHP program to check whether number is even or odd.
4. write a PHP program to check whether a given number is prime or not.
5. Write a PHP Program to find the largest number among three given number using conditional statements.
6. Write a PHP Program to calculate simple and compound interest based on user inputs
7. Write a PHP program to display student's result using concepts of conditional statements.
8. Write a PHP program to determine whether a given year is a leap year or not.
9. Write a PHP program to calculate the area of triangle, rectangle, square and circle using switch case structure.
10. Write a PHP program to generate multiplication table for a given number.
11. Write a PHP Program to calculate the factorial of given number.
12. Write a PHP program to generate the Fibonacci series up to a specified number of terms.
13. Write a PHP Program to determine whether a given number is a palindrome or not.
14. Write a PHP program to design calculator and implement concept of user-defined functions with parameters and return values.
15. Write a PHP program to perform various string manipulation operations like search, replace, word count.
16. Write a PHP program demonstrating date and time functions.

17. Create an HTML form and process user input using PHP GET method for visitor inquiry form.
18. Create an HTML form and process user input using PHP POST method for online feedback form.
19. Develop a PHP application with server-side form validation for a student admission form.
20. Write a PHP program demonstrating indexed, associative, and multidimensional arrays.
21. Develop a PHP application for student registration with validation and establish MySQL database connectivity with insert, update, delete and display record.
22. Create a PHP application to manage user sessions for login and logout functionality.
23. Develop a PHP application using cookies to store and retrieve user preferences.
24. Write a PHP program to create, read, update and delete text files.
25. Write a PHP Program to create a library management database and required tables.
26. Create a complete CRUD application for employee registration module.
27. Develop a search module to find records using different search criteria.
28. Write a PHP program demonstrating classes, objects, constructors, and destructors.
29. Write a PHP Program to implementing inheritance and encapsulation concepts.
30. Create reusable PHP modules using include() and require() statements.
31. Write a PHP program demonstrating exception handling using try-catch blocks.
32. Develop a PHP application implementing custom error handling techniques.
33. Create a secure login system using password hashing and verification.
34. Develop a PHP application demonstrating input sanitization and validation techniques.
35. Implement prepared statements to prevent SQL Injection attacks.
36. Develop a PHP application with secure session management.
37. Create an AJAX-enabled form that submits data without page refresh.
38. Develop a PHP application that loads dynamic content using AJAX.
39. Write a PHP program to encode and decode JSON data.
40. Create a live search application using AJAX, PHP, and MySQL.
41. Develop a real-time username availability checker using AJAX.

Sample Practical Exercises based on Subject PGDCA205-1- ICT Tools for Survey and Data Analysis

1. Create a Google Form for collecting student's personal and academic details.
2. Design an online feedback survey using multiple question types (MCQ, checkbox, dropdown, short answer, and linear scale).
3. Create a survey form with mandatory fields, response validation, and custom themes.
4. Share a Google Form using email and public links and collect responses from participants.
5. Create a survey form using Microsoft Forms and compare its features with Google Forms.
6. Design a SurveyMonkey questionnaire for customer satisfaction analysis.
7. Export survey responses from Google Forms to Google Sheets.
8. Organize survey data in Google Sheets using proper headings and formatting.
9. Perform sorting and filtering operations on survey data in Google Sheets.
10. Use spreadsheet formulas such as SUM(), AVERAGE(), COUNT(), MAX(), and MIN() on collected data.
11. Perform conditional analysis of survey data using IF() and SUMIF() functions.
12. Identify and remove duplicate records from a survey dataset.
13. Clean survey data by handling missing values and trimming blank spaces.
14. Create a student survey dataset and perform data validation techniques.
15. Generate descriptive statistics (Mean, Median, Mode) using spreadsheet tools.
16. Create frequency distribution tables for survey responses.
17. Develop a Pivot Table to summarize survey results department-wise or category-wise.
18. Visualize survey data using bar charts to compare response distributions.
19. Create Pie Charts to represent percentage-based survey outcomes.
20. Create Line Charts to analyze trends in collected data.
21. Design a dashboard in Google Sheets using charts and summary indicators.
22. Import survey data into Power BI and create a basic report.
23. Develop interactive visualizations in Power BI using charts and slicers.
24. Create a Power BI dashboard showing key survey insights and statistics.
25. Analyze survey data and prepare findings based on visualizations.
26. Generate a summary report from survey data using MS Word and export reports in PDF format and share them via email.
27. Create a PowerPoint presentation summarizing survey objectives, methodology, findings, and conclusions.
28. Conduct a complete survey project (design form, collect responses, clean data, analyze data, and present findings).

