



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: PGDCA106-2-Practical based on PGDCA104-2 and PGDCA105-2

Teaching And Evaluation Scheme:

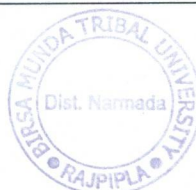
Teaching Scheme				Examination Scheme			
Credits				Component Weightage			
				CCE		SEE	
L	T	P	Total	TH	PWE	TH	PWE
-	-	4	4	-	50%	-	50%

Programme Name	P.G.D.C.A.
Semester	1
Course Code	PGDCA106-2
Course Title	Practical based on PGDCA104-2 and PGDCA105-2
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

After the successful completion of the syllabus, the student will be able to:

- Understand the fundamental concepts, structure, functions, and evolution of operating systems.
- Develop knowledge of process management, CPU scheduling, synchronization, and deadlock handling mechanisms.



- Understand memory management techniques and resource allocation strategies used in modern operating systems.
- Explain file system organization, disk management, I/O systems, and device management concepts.
- Differentiate between Character User Interface (CUI) and Graphical User Interface (GUI) environments.
- Develop practical skills in DOS, Windows, and Linux operating environments.
- Apply Linux command-line operations and shell scripting techniques for system administration and automation tasks.
- Analyse operating system services and evaluate suitable resource management techniques for efficient system performance.
- Develop basic understanding of computer systems, hardware, software and operating system concepts.
- Use office automation tools for documentation, data handling and presentations.
- Create, edit and manage professional documents, spreadsheets and presentations.
- Develop practical digital skills required for academic, administrative and workplace communication.
- Use of computer applications for problem solving, information management and presentation of ideas.

Learning Outcomes

After successful completion of the programming course, the student will be able to

- Explain the concepts, structure, functions, services, and classifications of operating systems along with process and thread management fundamentals.
- Apply CPU scheduling algorithms, synchronization techniques, and deadlock handling methods to manage processes and system resources efficiently.
- Analyze memory management techniques, virtual memory concepts, file systems, disk management, and I/O operations used in modern operating systems.
- Utilize GUI and CUI operating environments for performing system administration, file management, and resource management tasks.
- Evaluate and execute operating system commands and utilities in DOS, Windows, and Linux environments for effective system operation and maintenance.
- Design and develop basic shell scripts using variables, conditional statements, loops, and command-line tools for task automation and system management
- Explain the fundamental concepts related to computer systems, memory, hardware and software.

- Demonstrate the use of word processing tools for preparing structured and professional documents.
- Perform basic calculations, formatting and data analysis using spreadsheet applications.
- Create effective presentations using appropriate design elements, charts and multimedia components.
- Apply office automation tools for academic, professional and day-to-day communication purpose

CLO-PLO Mapping Matrix:

CLO / PLO	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
CLO1	3	1	–	1	1	1
CLO2	2	3	2	3	3	1
CLO3	2	2	3	3	2	1
CLO4	2	3	2	2	3	2
CLO5	2	2	1	3	3	3
CLO6	1	3	2	2	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 PGDCA104-2-Operating System

Q-1: Perform the Following using DOS Commands:

1. Display the contents of the current directory.
2. Display all files including hidden files.
3. List files in wide format.
4. Copy a text file using appropriate command.
5. Copy multiple files into a new folder.



6. Display the contents of the current directory using suitable command.
7. Delete multiple files using wildcards.
8. Write commands to Rename a file and a directory.

Q-2: Perform the Following using DOS Commands:

1. Delete a file.
2. Create a text file using command prompt.
3. Clear the screen.
4. Display current system date.
5. Change the system date.
6. Write command to display current system time and also change the system time.
7. Create and copy a backup of a file.
8. Create a batch command using COPY and DEL.

Q-3: Perform the Following using DOS Commands:

1. Compare directory contents before and after file deletion.
2. Copy files from one folder to another using relative paths.
3. Copy files using absolute paths.
4. Rename multiple files one by one.
5. Delete all .tmp files from a folder.
6. Create a command sequence using DIR, COPY, and DEL.
7. Display directory contents in sorted order.
8. Prepare a report of commonly used internal commands.

Q-4: Perform the following using DOS Commands:

1. Copy an entire directory structure.
2. Use XCOPY with subdirectories.
3. Create a backup using XCOPY with /S option.
4. Examine disk status using proper command.
5. Analyse disk errors using CHKDSK.
6. Display file attributes using proper command.
7. Set a file as Read-Only using appropriate command.
8. Remove Read-Only attribute from a file.
9. Hide a file using suitable command.
10. Unhide a hidden file.

Q-5: Perform the following using DOS Commands:

1. Create a bootable USB using FORMAT (demonstration).
2. Format a removable drive (simulation).
3. Compare CHKDSK output before and after cleanup.
4. Create a backup folder using XCOPY.
5. Generate a batch file to automate XCOPY.
6. Create a batch file displaying a welcome message.
7. Create a batch file to show system date and time.

8. Create a batch file to copy files automatically.
9. Create a menu-driven batch file.
10. Create a batch file to clean temporary files.

Q-6: Perform the following in windows environment:

1. Create folders using Windows Explorer.
2. Copy and move files between folders.
3. Rename files and folders.
4. Delete and restore files from Recycle Bin.
5. Search files using File Explorer.
6. Compress files using ZIP utility.
7. Extract ZIP files.
8. Create shortcuts on Desktop.
9. Customize file and folder views.
10. Display hidden files and folders.
11. Open and explore Control Panel.
12. Change date and time settings.
13. Modify keyboard and mouse settings.
14. Change display settings.
15. View installed programs.

Q-7: Perform the following in windows environment:

1. Use Task Manager to monitor CPU usage.
2. End an application using Task Manager.
3. View startup applications.
4. Open Disk Management and identify partitions.
5. Create a basic disk management report.
6. Open System Information utility.
7. Use Device Manager to view hardware devices.
8. Run Disk Cleanup utility.
9. Defragment a drive (demonstration).
10. Check system performance using Resource Monitor.
11. View computer name and workgroup settings.
12. Display IP configuration using Windows settings.
13. Change network adapter settings.
14. Configure a static IP address.
15. Test network connectivity using Ping command.

Q-8: Perform the following on Linux Terminal using Linux Commands:

1. Display current working directory.
2. List files.
3. List hidden files.
4. Create a directory.
5. Create nested directories.



6. Change directories.
7. Remove empty directories.
8. Create files using touch.
9. Display file contents.
10. Copy files.
11. Move files.
12. Rename files.
13. Delete files.
14. Combine multiple file operations in one file.
15. Create a directory tree structure for a project.

Q-9: Perform the following on Linux Terminal using Linux Commands:

1. View file permissions.
2. Change file permissions.
3. Assign execute permission to a script.
4. Change file ownership.
5. Display running processes.
6. Monitor processes.
7. Terminate a process.

Q-10: Write Shell Scripts for the following:

1. Create a shell script displaying student information.
2. Write a shell script using variables and user input.
3. Write a shell script using conditional statements (if) and loops (for/while) to generate multiplication tables.
4. Create a shell script to calculate simple interest.
5. Create a shell script to find the largest of three numbers.
6. Create a shell script to check whether a number is prime.
7. Create a shell script to generate Fibonacci series.
8. Create a shell script to count files in a directory.
9. Create a shell script to create user-defined directories automatically.
10. Create a shell script for file backup automation.

Sample Practical exercises based on PGDCA105-2 Fundamentals of Computer and Office Automation

Word Processing and Documentation

1. Create and save a formatted document containing personal information.
2. Prepare a resume using a word processing tool.
3. Create a notice using appropriate formatting features.
4. Insert and format tables in a document.
5. Design a letterhead for an organization.
6. Insert images, shapes, and text boxes into a document.
7. Prepare a meeting agenda and minutes document.

8. Use mail merge to generate invitation letters.
9. Apply page layout, headers, footers, and page numbering.
10. Print and export documents in PDF format.

Spreadsheet Applications and Data Analysis

1. Create a worksheet to record student marks.
2. Perform basic calculations using spreadsheet formulas.
3. Calculate total, average, maximum, and minimum values.
4. Format worksheets using borders, colors, and alignment.
5. Sort student records based on marks.
6. Search and filter records in a worksheet.
7. Create column, bar, and pie charts using data.
8. Prepare a monthly household expense sheet.
9. Generate graphical reports from spreadsheet data.
10. Print and share spreadsheets with proper formatting.

Presentation Design and Communication Tools

1. Create a presentation introducing Birsa Munda Tribal University.
2. Design slides using themes and templates.
3. Insert pictures, charts, and hyperlinks in slides.
4. Create an educational presentation on digital literacy.
5. Apply slide transitions and animations.
6. Prepare a presentation on tribal culture and heritage.
7. Create a custom slide template.
8. Practice slide navigation and presentation delivery.
9. Export presentations to PDF format.
10. Deliver a 5-minute presentation using presentation software.

गरीयसी पुण्यारण्य संस्कृतिः।

