GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Bachelor of Computer Applications

Level: Under Graduate

Course / Subject Code:

Course / Subject Name: Office Automation

w. e. f. Academic Year:	June-2024
Semester:	1
Category of the Course:	Skill Enhancement Courses (SEC)

Prerequisite:	Basic Computer Literacy: Students should be comfortable using a computer, including basic operations such as file management, web browsing, and using common software applications.
Rationale:	In today's rapidly evolving digital landscape, the effective utilization of office automation tools is paramount for increased productivity, streamlined workflows, and enhanced collaboration within organizations. The "Office Automation" course is designed to equip participants with the knowledge and skills necessary to harness the power of open-source office automation tools to optimize office tasks and processes.
	The "Office Automation" course provides participants a comprehensive understanding of open-source office automation tools and their applications in modern workplaces. By mastering these tools, participants will be better equipped to navigate the digital landscape, optimize office workflows, and drive innovation within their organizations. This course is valuable in personal and professional development, empowering students to thrive in today's digital-first world.

Course Outcome:

After completion of the course, the student will able to:

No	Course Outcomes	RBT Level
01	demonstrate proficiency using open-source office automation tools such as LibreOffice or Apache OpenOffice.	AP
02	automate repetitive office tasks using open-source automation features.	AP
03	demonstrate the ability to collaborate effectively on documents using open-source collaborative features.	AP
04	analyze data and generate reports using open-source spreadsheet and database tools.	AP
05	apply office automation skills to real-world scenarios and projects.	AP

Teaching and Examination Scheme:

Teaching Scheme (in Hours)			Total Credits L+T+ (PR/2)	Assessment Pattern and Marks				Total Marks
				Theory		Tutorial / Practical		
L	**T**	**PR**	**C**	ESE (E)	PA / CA (M)	PA/CA (I)	ESE (V)	

GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Bachelor of Computer Applications

Level: Under Graduate

Course / Subject Code:

Course / Subject Name: Office Automation

0	0	4	2	0	0	50	50	100

Course Content:

Unit No.	Content	No. of Hours	% of Weightage
1.	**Introduction to Office Automation and Open-Source Tools** • Overview of office automation concepts • Introduction to open-source tools (LibreOffice, Apache OpenOffice) • Hands-on: Installing and getting started with LibreOffice or Apache OpenOffice	4	7
2.	**Word Processing Basics** • Introduction to word processing • Basic formatting and editing in LibreOffice Writer or Apache OpenOffice Writer • Hands-on: Creating, editing, and formatting documents	4	7
3.	**Advanced Word Processing** • Advanced formatting techniques (styles, templates, tables) • Inserting images, graphs, and other objects • Hands-on: Creating complex documents with advanced formatting	4	7
4.	**Spreadsheet Fundamentals** • Introduction to spreadsheets and their uses • Basic formulas and functions in LibreOffice Calc or Apache OpenOffice Calc • Hands-on: Creating and formatting simple spreadsheets	4	7
5.	**Advanced Spreadsheet Functions** • Advanced formulas and functions (IF, VLOOKUP, SUMIF, etc.) • Data analysis and visualization • Hands-on: Performing data analysis and creating charts	4	7
6.	**Presentation Basics** • Introduction to presentations and their importance • Creating slides and basic formatting in LibreOffice Impress or Apache OpenOffice Impress • Hands-on: Designing and delivering simple presentations	4	7
7.	**Advanced Presentation Techniques** • Advanced formatting options (animations, transitions, master slides) • Incorporating multimedia elements (audio, video) • Hands-on: Creating dynamic and engaging presentations	4	7
8.	**Database Management Basics**	4	7

	• Introduction to databases and their uses • Creating and managing databases in LibreOffice Base or similar open-source tools • Hands-on: Designing and populating a simple database		
9.	**Querying and Reporting** • Basic querying techniques • Generating reports and forms • Hands-on: Creating queries and reports from the database	4	7
10.	**Collaboration Tools** • Introduction to collaborative office tools (Google Workspace, Nextcloud) • Real-time collaboration features • Hands-on: Collaborating on documents, spreadsheets, and presentations	4	7
11.	**Document Automation** • Introduction to document automation tools (Mail Merge, Document Templates) • Automating repetitive tasks • Hands-on: Creating mail merge documents and templates	4	7
12.	**Workflow Automation** • Introduction to workflow automation tools (Zapier, IFTTT) • Creating automated workflows for office tasks • Hands-on: Setting up and testing automated workflows	4	7
13.	**Project Management Tools** • Introduction to project management tools (Trello, Asana) • Task management and collaboration features • Hands-on: Managing projects and tasks using project management tools	4	7
14.	**Final Project and Review** • Students work on a final project integrating skills learned throughout the course • Presentation of final projects • Course review and feedback	4	9
	Total	56	100

Note: In addition to the above 14 sessions, there will be 2 more sessions for internal assessment

Suggested Specification Table with Marks (Theory/Practical):

Distribution of Theory Marks					
R Level	**U Level**	**A Level**	**N Level**	**E Level**	**C Level**
10	**10**	**80**	-	-	-

Where R: Remember; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create (as per Revised Bloom's Taxonomy)

References/Suggested Learning Resources:

(a) Books:
1. "LibreOffice 6.4 Writer Guide" by LibreOffice Documentation Team
   (Note: This official guide provides comprehensive coverage of LibreOffice Writer, covering everything from basic to advanced features.)
2. "Using OpenOffice.org: Special Edition" by Solveig Haugland and Floyd Jones
   (Note: This book offers practical guidance on using OpenOffice.org (now Apache OpenOffice), covering Writer, Calc, Impress, and Base.)

(b) Open source software and website:
1. **LibreOffice:** Website: https://www.libreoffice.org/download/
   LibreOffice is a powerful open-source office suite that includes Writer (word processing), Calc (spreadsheets), Impress (presentations), Base (databases), and more.
2. **Apache OpenOffice:** Website: https://www.openoffice.org/download/
   Apache OpenOffice is another popular open-source office suite, providing similar functionalities to LibreOffice, including Writer, Calc, Impress, Base, and more.
3. For LibreOffice and Apache OpenOffice, you can refer to the Spoken Tutorial by IIT Bombay: https://spoken-tutorial.org/
   (Note: These tutorials cover various topics, from basic to advanced features, and are designed to help users learn how to use LibreOffice and Apache OpenOffice effectively. You can browse the tutorials and choose the ones that match your learning objectives and skill level.)

Suggested Course Practical List: As given in course content, 14 sessions

List of Laboratory/Learning Resources Required:

1. **Computers:**
   o Desktop computers or laptops with sufficient hardware specifications to run office automation software smoothly.
2. **Operating Systems:**
   o Installations of operating systems compatible with the chosen open-source office suite (e.g., Windows, macOS, or Linux).
3. **Office Software:**
   o Install the open-source Office Suite software such as LibreOffice or Apache OpenOffice on each computer.
4. **Internet Access:**
   o Reliable internet connectivity for accessing online resources, downloading software updates, and facilitating collaborative activities.
5. **Projectors or Screens:**
   o Projectors or large screens for presenting demonstrations and tutorials to the class.
6. **Interactive Whiteboard or Smartboard:**
   o Interactive whiteboards or smartboards for interactive teaching and collaborative activities.
7. **Collaborative Tools:**
   o Collaboration tools such as Google Workspace or Nextcloud for facilitating real-time collaboration on documents and projects.

Suggested Project List:

Students should work on projects such as –

1. **Document Template Library:**
   o Create a library of document templates for various purposes (e.g., business letters, resumes, meeting agendas) using LibreOffice Writer or Apache OpenOffice Writer.
2. **Budget Tracker Spreadsheet:**
   o Develop a budget tracker spreadsheet using LibreOffice Calc or Apache OpenOffice Calc to track income, expenses, and savings over time, with automated calculations and visualizations.
3. **Interactive Presentation:**
   o Design an interactive presentation using LibreOffice Impress or Apache OpenOffice Impress, incorporating multimedia elements, hyperlinks, and interactive quizzes or polls.

4. **Database Management System:**
   o Create a simple database management system using LibreOffice Base or similar open-source tools to store and manage information such as inventory, customer records, or student data.

5. **Mail Merge Automation:**
   o Implement a mail merge automation system using LibreOffice Writer or Apache OpenOffice Writer to generate personalized letters or emails for a mailing list from a database of contacts.

6. **Project Management Dashboard:**
   o Develop a project management dashboard using LibreOffice Calc or Apache OpenOffice Calc to track project tasks, timelines, milestones, and resource allocation.

7. **Data Analysis Report:**
   o Analyze a dataset using LibreOffice Calc or Apache OpenOffice Calc and create a comprehensive data analysis report with descriptive statistics, charts, and insights.

8. **Collaborative Document Editing:**
   o Collaborate with classmates to create a collaborative document (e.g., a group project report or presentation) using real-time collaboration features in LibreOffice Writer, Calc, or Impress.

9. **Workflow Automation Tool:**
   o Develop a workflow automation tool using open-source automation platforms like Zapier or IFTTT to streamline common office tasks and processes (e.g., email notifications, file backups).

10. **Inventory Management System:**
    o Design an inventory management system using LibreOffice Base or similar open-source tools to track inventory levels, reorder quantities, and supplier information for a small business or organization.

11. **Document Version Control System:**
    o Create a document version control system using LibreOffice or Apache OpenOffice, allowing users to track changes, compare revisions, and revert to previous versions of documents.

12. **Interactive Form Generator:**
    o Design an interactive form generator using LibreOffice Writer or Apache OpenOffice Writer to create customizable forms (e.g., surveys, feedback forms) with fillable fields, checkboxes, and dropdown menus.

Suggested Activities for Students:

Some hands-on activities that participants can engage in to reinforce their learning and practical skills in office automation using open-source tools:

1. **Formatting Challenge:**

- o Participants are given a document with inconsistent formatting and are tasked with standardizing the formatting (e.g., fonts, styles, margins) using LibreOffice Writer or Apache OpenOffice Writer.

2. **Spreadsheet Formulas Practice:**
   - o Participants work on spreadsheet exercises involving various formulas and functions (e.g., SUM, IF, VLOOKUP) in LibreOffice Calc or Apache OpenOffice Calc to perform calculations and data analysis tasks.

3. **Presentation Design Workshop:**
   - o Participants collaborate to design and deliver a presentation on a given topic using LibreOffice Impress or Apache OpenOffice Impress, focusing on effective slide design, content organization, and visual aids.

4. **Database Query Challenge:**
   - o Participants practice writing SQL queries to retrieve specific information from a database created in LibreOffice Base or similar open-source tools, such as querying customer information or product inventory data.

5. **Collaborative Document Editing Session:**
   - o Participants pair up or work in small groups to collaboratively edit a document using real-time collaboration features in LibreOffice Writer, Calc, or Impress, practicing simultaneous editing, commenting, and version tracking.

6. **Mail Merge Exercise:**
   - o Participants perform a mail merge exercise using LibreOffice Writer or Apache OpenOffice Writer, merging data from a spreadsheet or database into personalized letters or emails for a mailing list.

7. **Data Analysis Challenge:**
   - o Participants analyze a dataset provided by the instructor using LibreOffice Calc or Apache OpenOffice Calc, applying data analysis techniques such as sorting, filtering, and creating pivot tables to extract insights and generate reports.

8. **Workflow Automation Demo:**
   - o The instructor demonstrates how to set up and automate a common office task or process using open-source automation platforms like Zapier or IFTTT, with participants following along and creating their own automated workflows.

9. **Project Management Simulation:**
   - o Participants simulate managing a project using LibreOffice Calc or Apache OpenOffice Calc, creating project timelines, assigning tasks, tracking progress, and generating reports to monitor project performance.

10. **Document Version Control Exercise:**
    - o Participants practice using document version control features in LibreOffice or Apache OpenOffice to track changes, compare revisions, and collaborate on a shared document, ensuring document integrity and consistency.

11. **Interactive Form Creation Workshop:**
    - o Participants design interactive forms (e.g., surveys, feedback forms) using LibreOffice Writer or Apache OpenOffice Writer, incorporating fillable fields, checkboxes, and dropdown menus to create user-friendly forms.

12. **Troubleshooting Challenge:**

o Participants troubleshoot common issues or errors encountered while using open-source office tools, using online resources, documentation, and peer collaboration to diagnose and resolve problems.

These activities provide hands-on opportunities for participants to practice using open-source office automation tools in various scenarios, reinforcing their learning and building their confidence in applying these tools effectively in real-world situations.

CO- PO Mapping:

Semester 1	Course Name									
	POs									
Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10	P11
CO1	-	-	-	-	3	-	3	-	1	-	-
CO2	-	-	-	-	3	1	3	-	1	-	1
CO3	-	-	-	-	3	1	3	-	1	-	1
CO4	-	-	-	-	3	2	3	-	2	-	2
CO5	-	-	-	-	3	2	3	-	2	-	2

Legend: '3' for high, '2' for medium, '1' for low and '-' for no correlation of each CO with PO.

* * * * * * *