

Integration of ICT Tools for Innovative Teaching and Learning Practices at ABMRCP

Academic Year: 2025

At **Acharya & BM Reddy College of Pharmacy (ABMRCP)**, the integration of Information and Communication Technology (ICT) tools has transformed the teaching-learning ecosystem, balancing traditional pedagogy with modern digital innovations. While the conventional chalk-and-board method continues to retain its value in building conceptual foundations, the incorporation of ICT platforms, classroom learning aids, and experimental software has provided a learner-centric, interactive, and technologically driven environment.

In classroom teaching, a wide range of ICT platforms such as PowerPoint presentations, Microsoft Office, Adobe Reader, Google Classroom, Canva Classrooms, MS Teams, the Alive Platform are actively used to improve engagement, streamline communication, and provide flexible access to study materials. Regularly shared study resources in the form of Word documents and PDFs not only aid academic learning but also serve as valuable references for competitive examinations. Google Classroom and Google Forms are extensively employed for assignment management, quizzes, and performance evaluation, while Canva Classrooms support visually enriched notes and progress tracking. Online classes and interactive sessions are effectively conducted through MS Teams and the Alive Platform, making remote learning seamless.

A significant advancement has been the deployment of AI-enabled Smart Boards, which have redefined classroom interaction. These boards integrate artificial intelligence to support real-time visualization of concepts, automatic problem-solving demonstrations, voice recognition for student queries, personalized feedback, and adaptive lesson delivery. This integration ensures that lectures are not only more engaging but also adaptive to individual student needs, thereby creating a dynamic and intelligent learning environment.

Beyond classroom instruction, specialized experimental and research-oriented software tools have been adopted across various pharmaceutical disciplines to enhance hands-on training and research capabilities. For example, Design Expert (Pharmaceutics) is used for formulation optimization, Ex-Pharm (Pharmacology) for simulating experimental procedures, and advanced molecular modeling tools such as Drug Discovery Studio, AutoDockVina, Swiss ADME, Zinc Pharmer, and WEBGRO MD Simulation (Pharmaceutical Chemistry) for drug design, docking, ADME/T prediction, and molecular dynamics. In Pharmaceutical Analysis, tools like Cary WinUV and Lab Solution assist in spectral interpretation and chromatography analysis. For Drug Regulatory Affairs, PharmaReady facilitates regulatory documentation and compliance management.

Additionally, the Library and Information Centre is fully digitized through tools such as Koha (Library Management Software), WEB-OPAC, DSpace Digital Repository, Barcode Technology Software (Zebra TLP2844), and Barcode Scanner DS9308, ensuring efficient cataloguing, e-resource access, and automated circulation systems.

Collectively, these ICT and software tools not only simulate real-world industrial and research environments but also equip students with technical proficiency, analytical skills, and digital adaptability. By effectively blending traditional methods with AI-driven, interactive, and research-oriented digital platforms such as Smart Board integrated AI for active teaching, we continue to nurture a modern, future-ready pharmaceutical education ecosystem aligned with the evolving demands of academia, industry, and global healthcare.

Through the effective implementation of these various ICT tools for active learning & practical software tools, ABMRCP continues to promote a modern, learner-centric educational environment, preparing students to meet the dynamic demands of the pharmaceutical profession.

Software	Name of the Software	Department	Application/ Domain
Experimental Softwares	Design Expert Free Version 13 Software	Pharmaceutics	Formulation optimization, statistical design of experiments
	Ex-Pharm Software	Pharmacology	Simulation of experimental pharmacology procedures
	PharmaReady	Drug Regulatory Affairs	Regulatory documentation and compliance management
	Cary WinUV	Pharmaceutical Analysis	UV-Visible spectroscopy data analysis
	Lab Solution	Pharmaceutical Analysis	Chromatographic and spectroscopic data interpretation
	Drug Discovery Studio 3.5	Pharmaceutical Chemistry	Molecular modeling, computational drug design
	AutoDockVina	Pharmaceutical Chemistry	Molecular dynamics simulation
	Swiss ADME	Pharmaceutical Chemistry	Prediction of ADME/T properties
	Zinc Pharmer	Pharmaceutical Chemistry	Chromatography and spectroscopic data interpretation
	WEBGRO MD Simulation	Pharmaceutical Chemistry	Molecular dynamics simulation
Library Management Softwares	Koha Version 22.11 – Library Management Software	Library & Information Centre	Library management software
	WEB-OPAC-Online Public Access Catalogue	Library & Information Centre	Digital access to library resources
	Digital Library Software-DSpace Home page	Library & Information Centre	Institutional repository & e-resource management
	Barcode Technology Software – Zebra TLP2844	Library & Information Centre	Library automation & circulation
	Barcode Scanner (2D LaserJet Table Top Model – DS9308)	Library & Information Centre	Fast book issue/return tracking
	Plagiarism Software-Turnitin and <i>Drill Bit</i>	Library & Information Centre	Plagiarism detection in academic and professional writing.
Learning softwares	Alive Platform	Study Material	Online classes, virtual lectures, notes, study materials
	Google Classroom / Google Forms	Study Material	Assignment management, quizzes, communication
Classroom learning	Smart Board	Teaching	Interactive teaching, real-time visualization AI Integrated Smart boards

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File Edit View Display Options Design Tools Help

Change View Round Columns Augment Design Hide/Show Columns

Navigation Pane

Design (Actual)

Information

- Notes
- Summary
- Graph Columns
- Evaluation
- Constraints

Analysis [+]

- Gloable size (Analyzed)
- PDI (Analyzed)

Design Properties

Run 1

Comment

Row Status Normal

Std	Run	Factor 1 A:Water Microlitres	Factor 2 B:S MIX Microlitres	Response 1 Gloable size nm	Response 2 PDI	Response 3 Zeta Potential mv
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4	2	0.9	0.5	235.7	0.643	-11.9
2	3	0.9	0.33	234.4	0.557	-41.2
12	4	0.5	0.415	468	0.407	-15
8	5	0.5	0.535208	474.8	0.567	-31.6
13	6	0.5	0.415	468	0.407	-15
10	7	0.5	0.415	468	0.407	-15
9	8	0.5	0.415	468	0.407	-15
11	9	0.5	0.415	468	0.407	-15
1	10	0.1	0.33	285	0.654	-45
6	11	1.06569	0.415	151	0.436	-39
5	12	-0.0656854	0.415	112	0.367	-39.8
7	13	0.5	0.294792	234	0.597	-37.6

Figure 1:Design Expert Version 13for *Formulation optimization, statistical design of experiments*

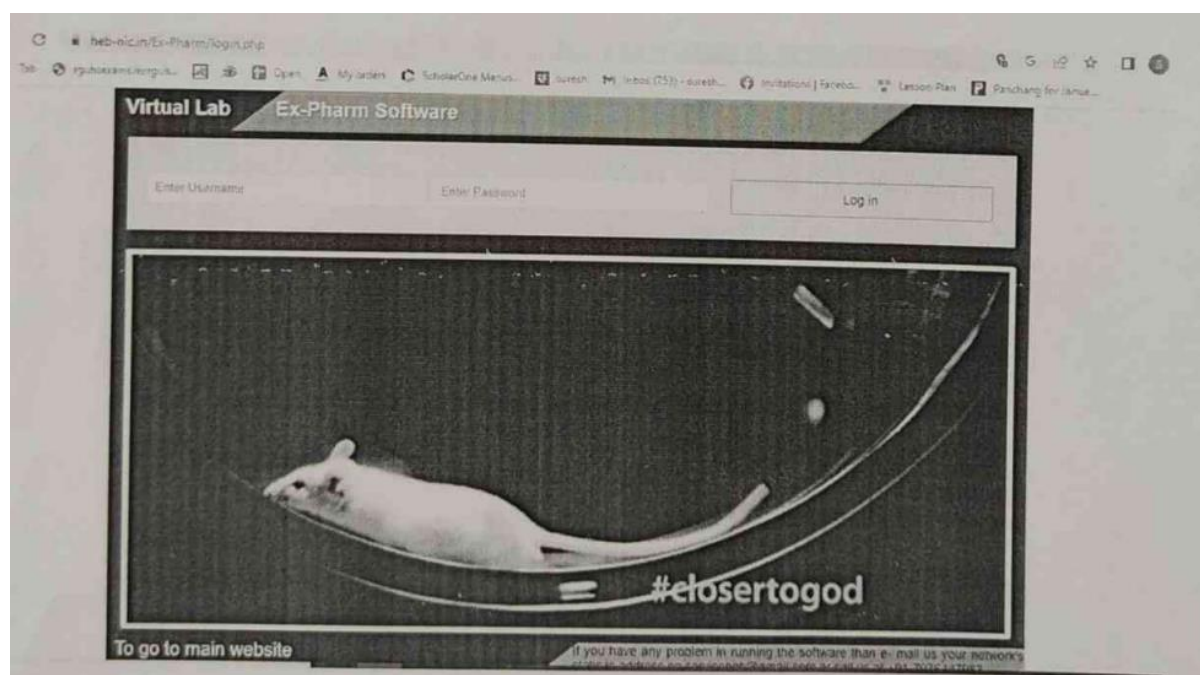


Figure 2: Ex-Pharm software for *Simulation of experimental pharmacology procedures*

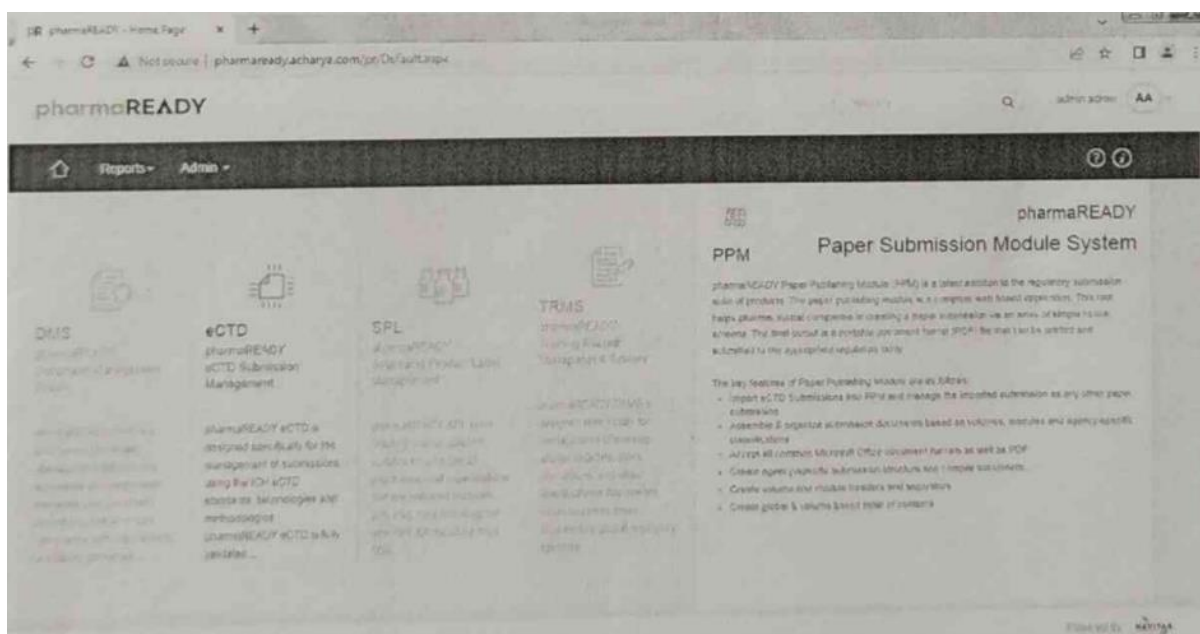
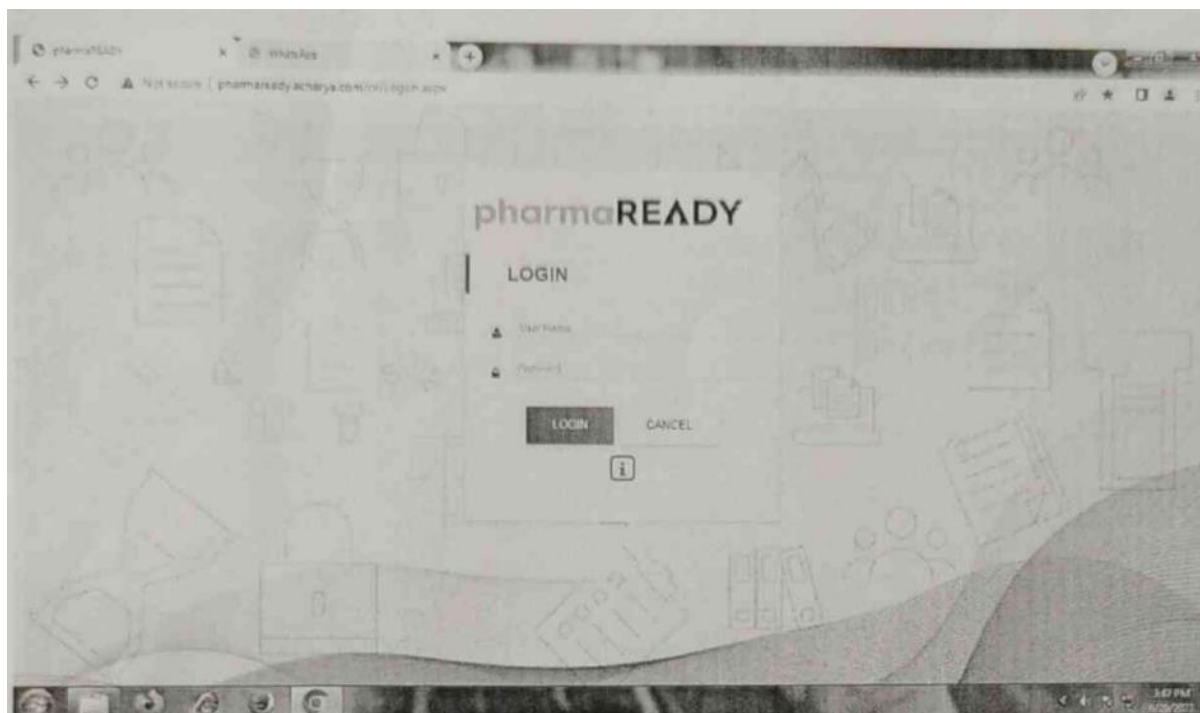


Figure 3: Pharma Ready for Regulatory documentation and compliance management

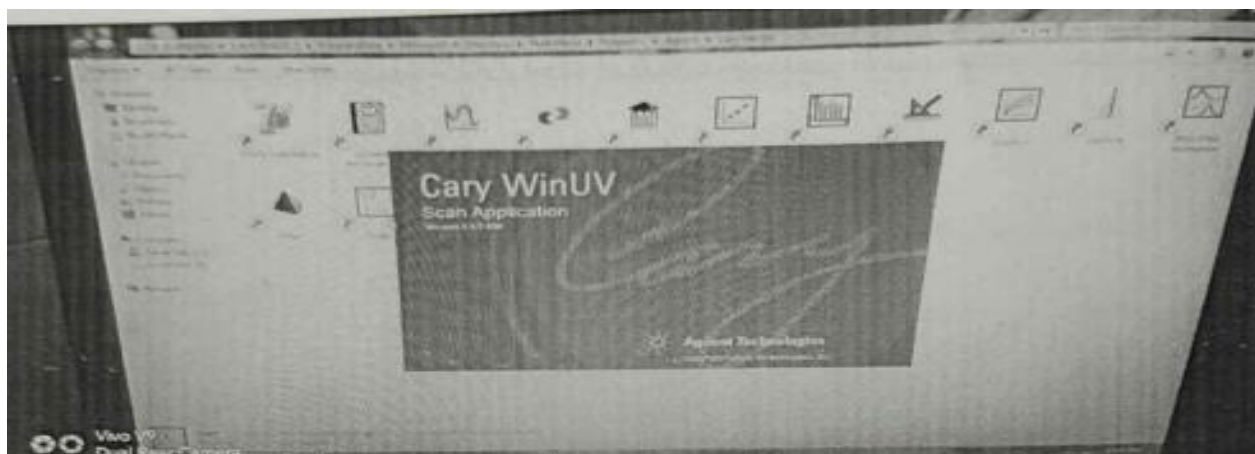


Figure 4: CaryWinUV for UV-Visible spectroscopy data analysis



Figure 5: Lab Solution for Chromatographic and spectroscopic data interpretation

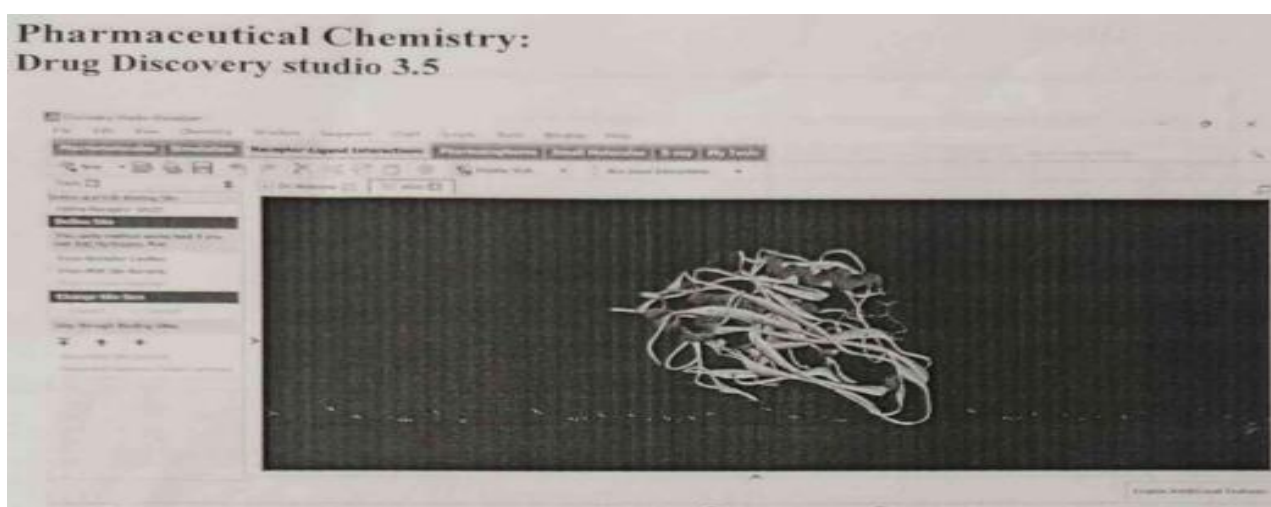


Figure 6: Drug Discovery Studio 3.5 for Molecular modeling, computational drug design

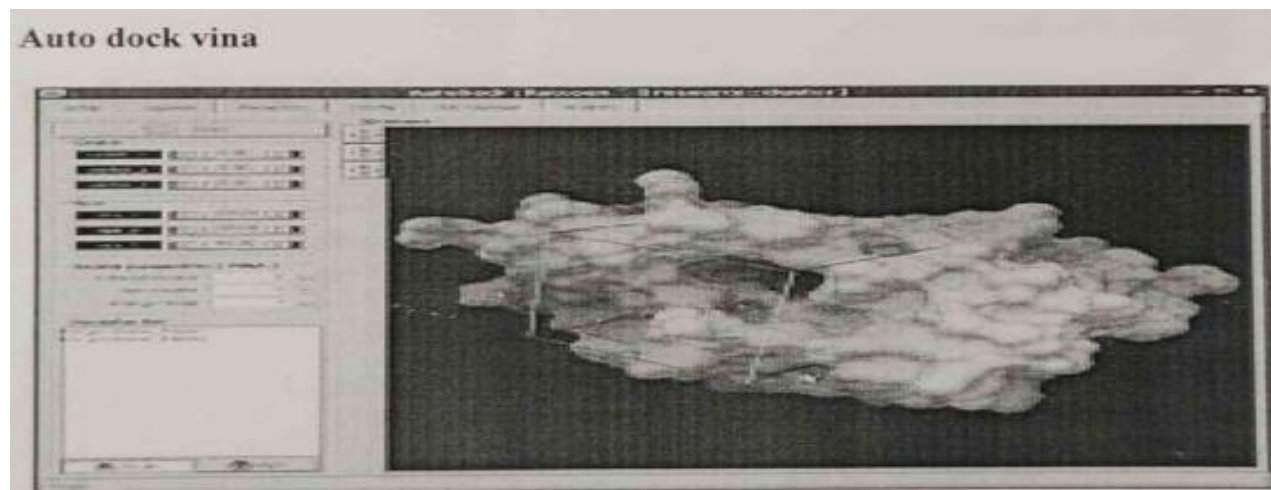


Figure 7: Auto dock vina for Molecular dynamics simulation

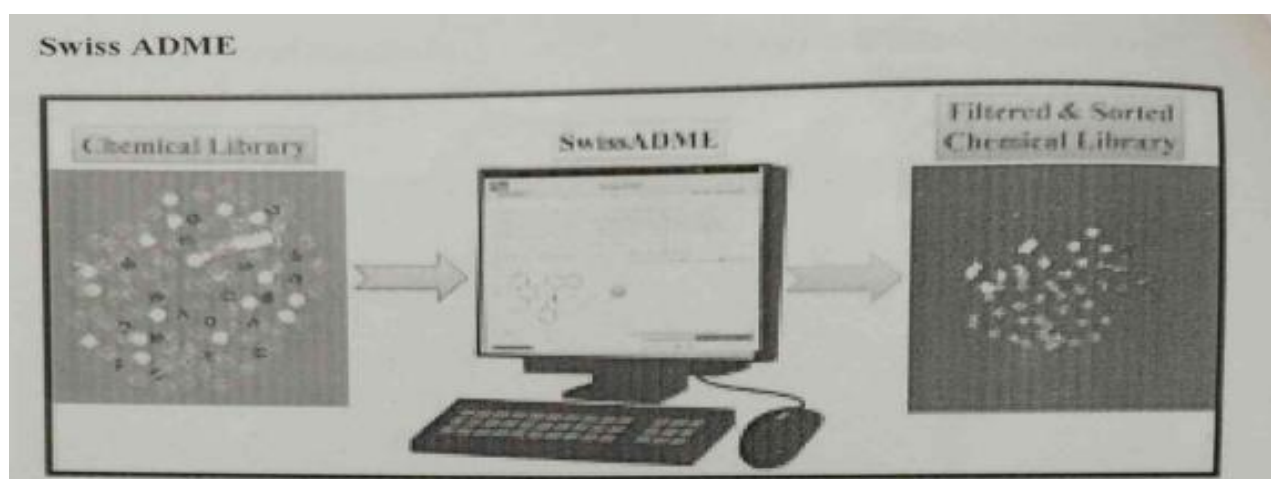


Figure 8: Swiss ADME for Prediction of ADME/T properties



Figure 4: ZINC Pharmer for Chromatography and spectroscopic data interpretation

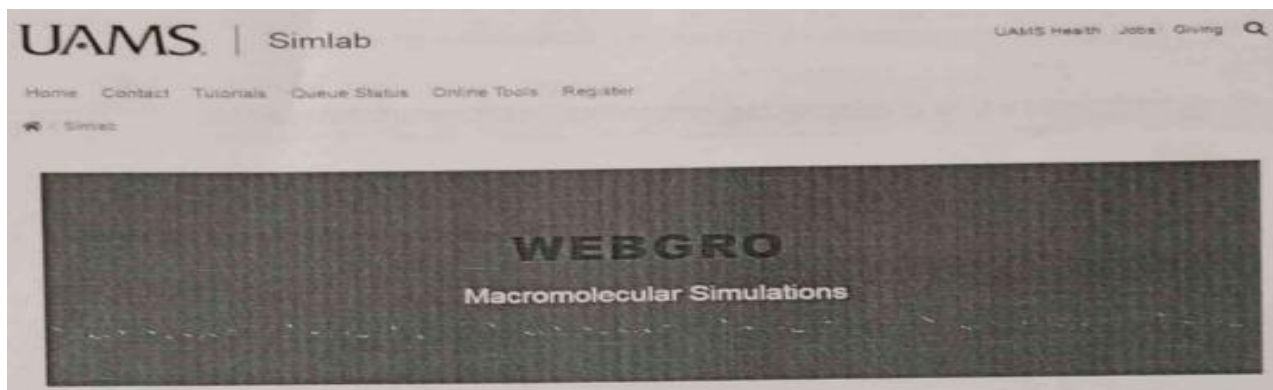


Figure 10: WEBGRO MD Simulator for Molecular dynamics simulation

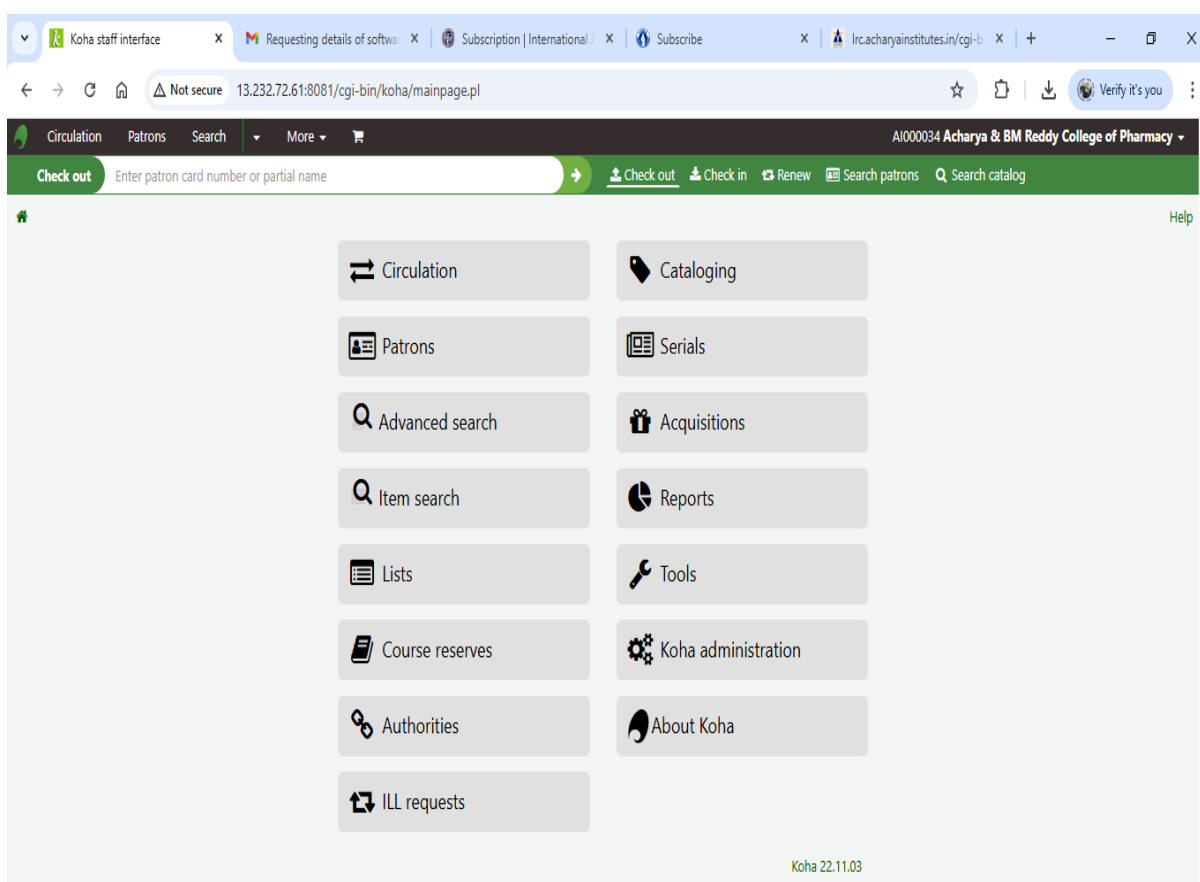


Figure 11: Koha software Library management Software.

Browser tabs: Koha, Requests, Subscri, Log in, ABMRC, Acharya, DSpace, Error 404, Verify it's you

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Navigation: Circulation, Patrons, Search, More

Buttons: Check out, Check in, Renew, Search catalog

Path: Circulation > Checkouts > Yashaswini.H (ACP21BPHA075)

Help



Yashaswini.H (ACP21BPHA075)

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7411484560
yashaswini.h.21.bpha@acharya...
Born: 22/12/2003 (21 years)
Category: ACP-BPH-Students (ACP-BPH-ST)
Home library: Acharya & BM Reddy College of Pharmacy
Borrower number: 49286
Updated on 06/05/2025 11:51 AM

Edit Add guarantee Change password Duplicate Print Search to hold Add message More

Checkouts

Checking out to Yashaswini.H (ACP21BPHA075)

Enter item barcode

Checked out: Text book of biostatistics and research methodology (ACP-R14764). Due on 19/08/2025

Messages
+ Add a new message

Checkouts (4) Holds (0) Claims (0) Restrictions (0)

Number of checkouts by item type

Due date	Title	Record-level item type	Item type	Location	Home library	Checked out on	Checked out from	Call number	Copy number	Charge	Fine	Price	Renew
19/08/2025	Text book of social and preventive pharmacy:8th Sem by Kosey, Soubrab	ACP- Regular Books	Pharmacy Practice	Acharya & BM Reddy College of Pharmacy	19/07/2025 10:56 AM	Acharya & BM Reddy College of Pharmacy	362.172 8 KOS			0.00	0.00	0.00	1 (1 of 2 renewals remaining)

Previous checkouts

Browser tabs: Koha staff, Requests, Subscri, Log in, ABMRC, Acharya, DSpace, Verify it's you

URL: lrc.acharyainstitutes.in:8080/jspui/handle/123456789/19

Navigation: Home, Browse, Help

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DSpace at Acharya Institutes

Acharya & BM Reddy College of Pharmacy Community

home page 

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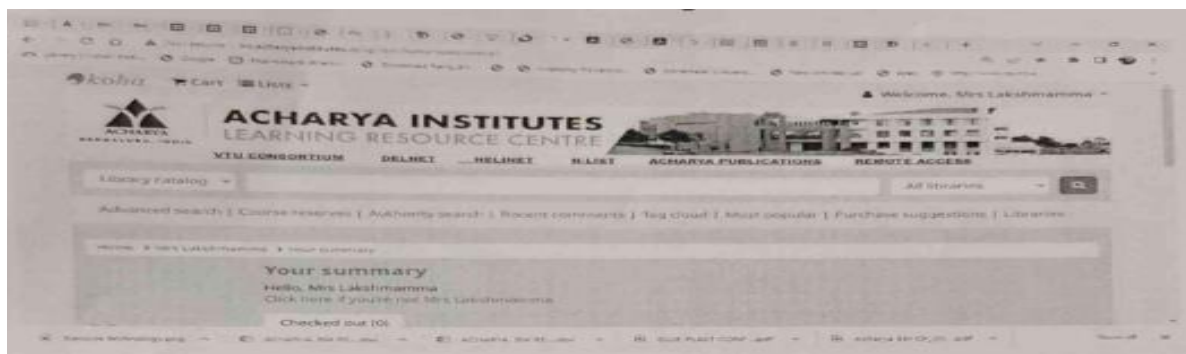


Figure 5: WEB-OPAC-Online Public Access Catalogue for digital access to library resources

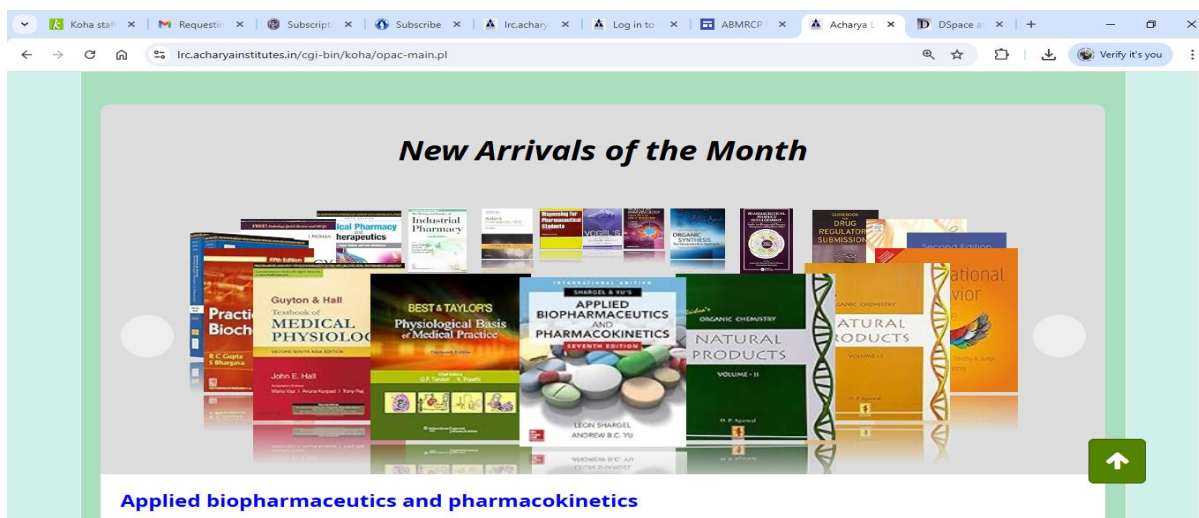


Figure 63: Digital Library Software-DSpace Home page for Institutional repository & e-resource management

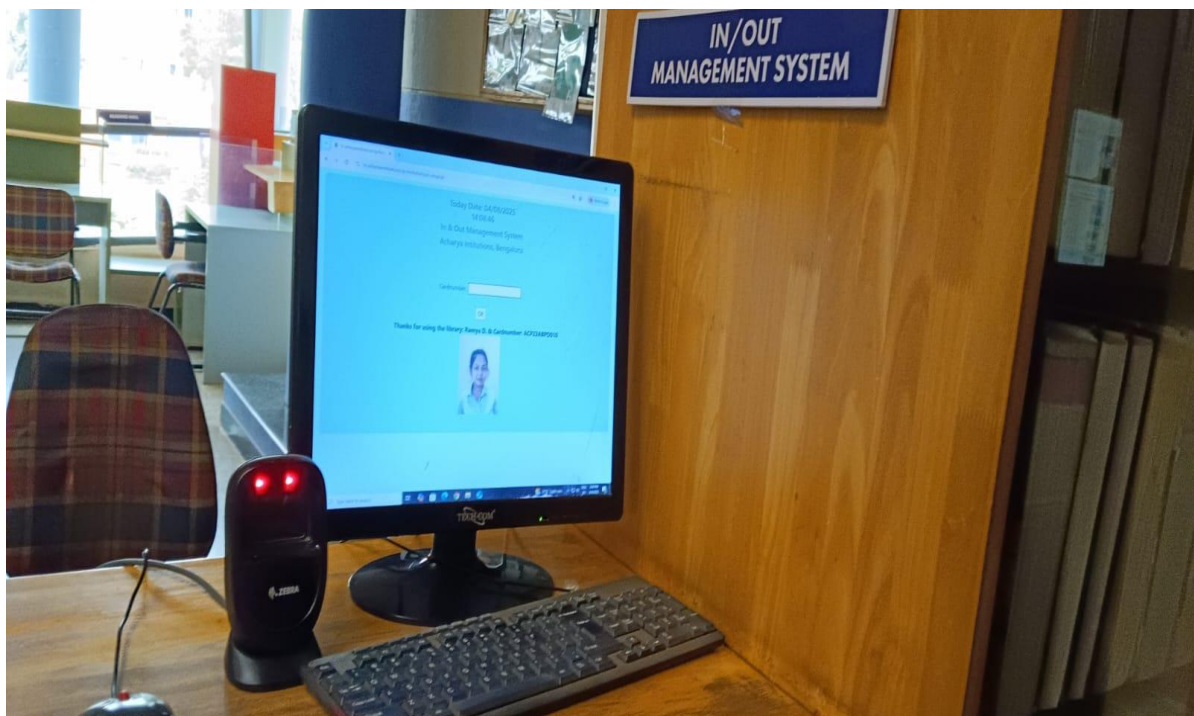
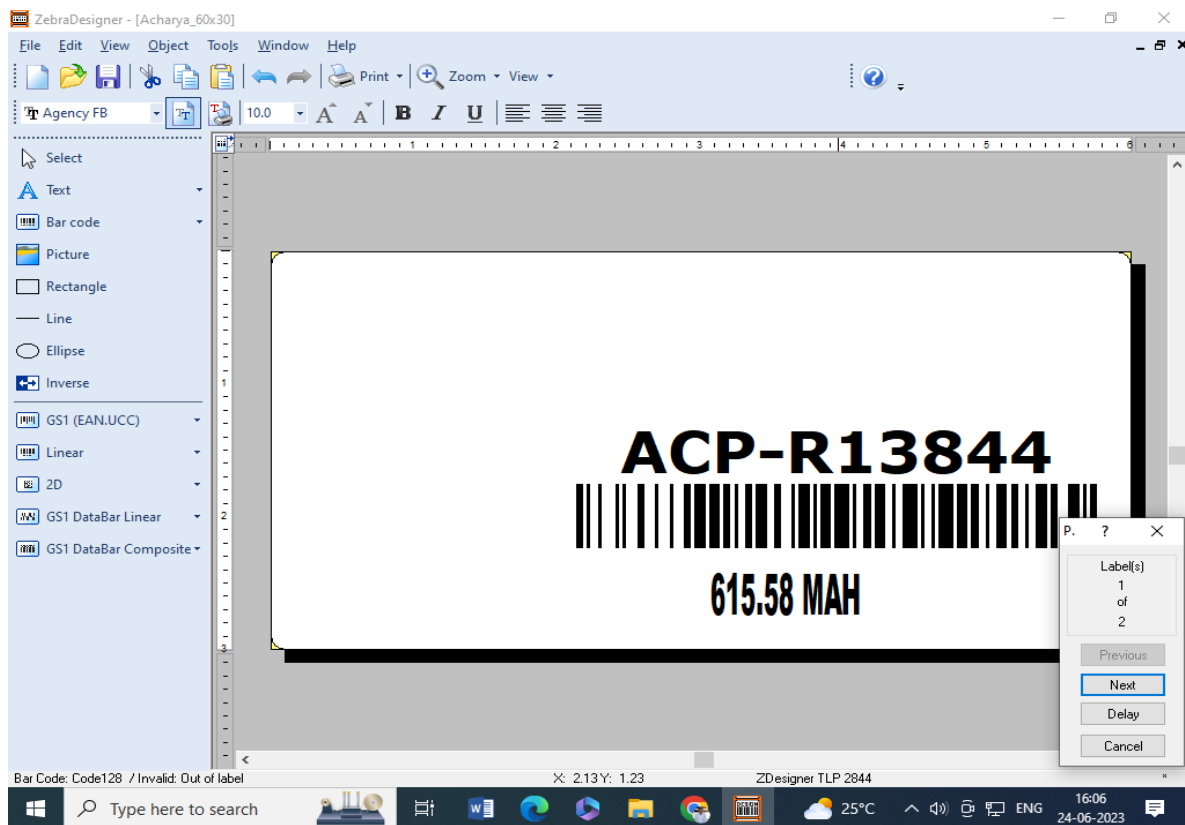
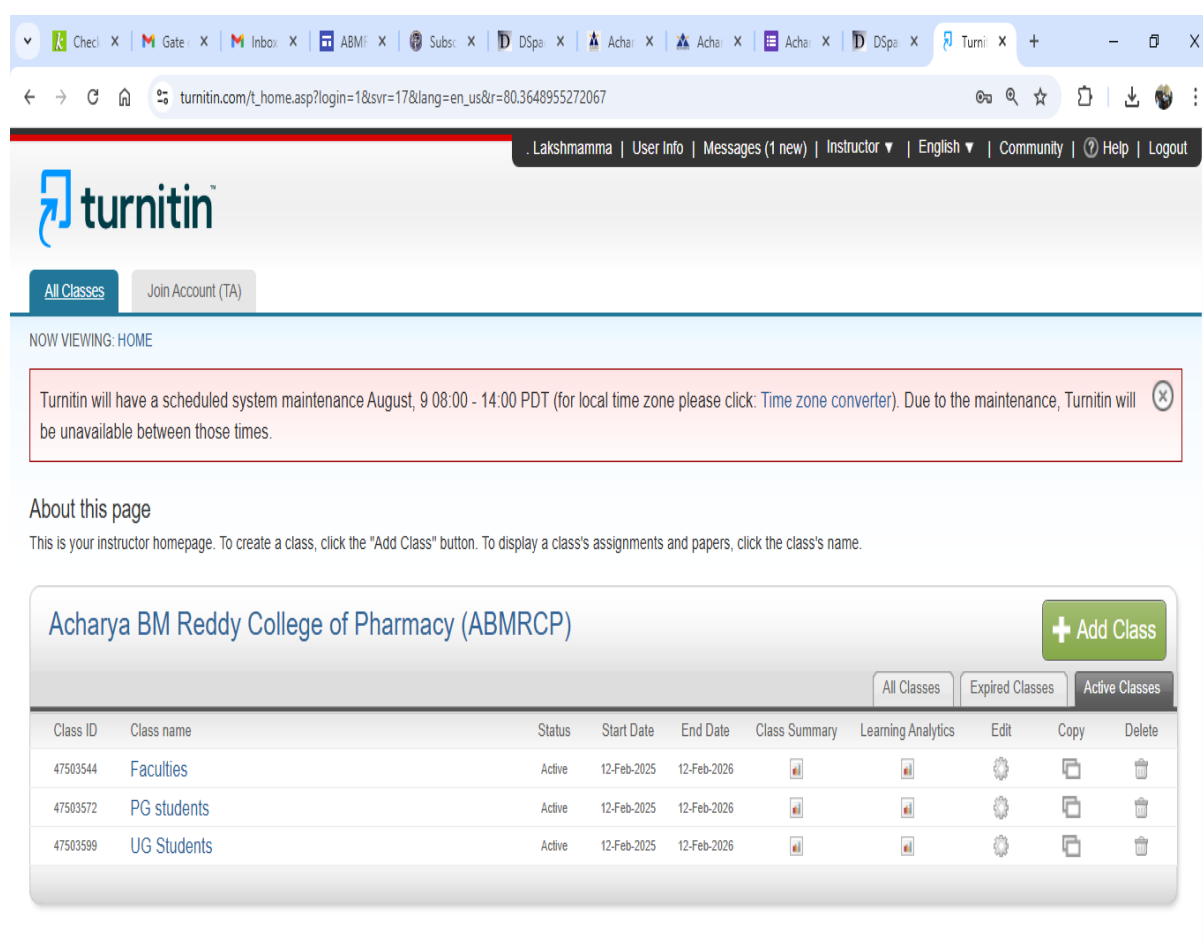




Figure 74: Barcode Scanner Software - ZebraTLP2844,2D LaserJet Table Top Model-DS9308 and scanner forFast book issue/return tracking



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Class ID	Class name	Status	Start Date	End Date	Class Summary	Learning Analytics	Edit	Copy	Delete
47503544	Faculties	Active	12-Feb-2025	12-Feb-2026					
47503572	PG students	Active	12-Feb-2025	12-Feb-2026					
47503599	UG Students	Active	12-Feb-2025	12-Feb-2026					

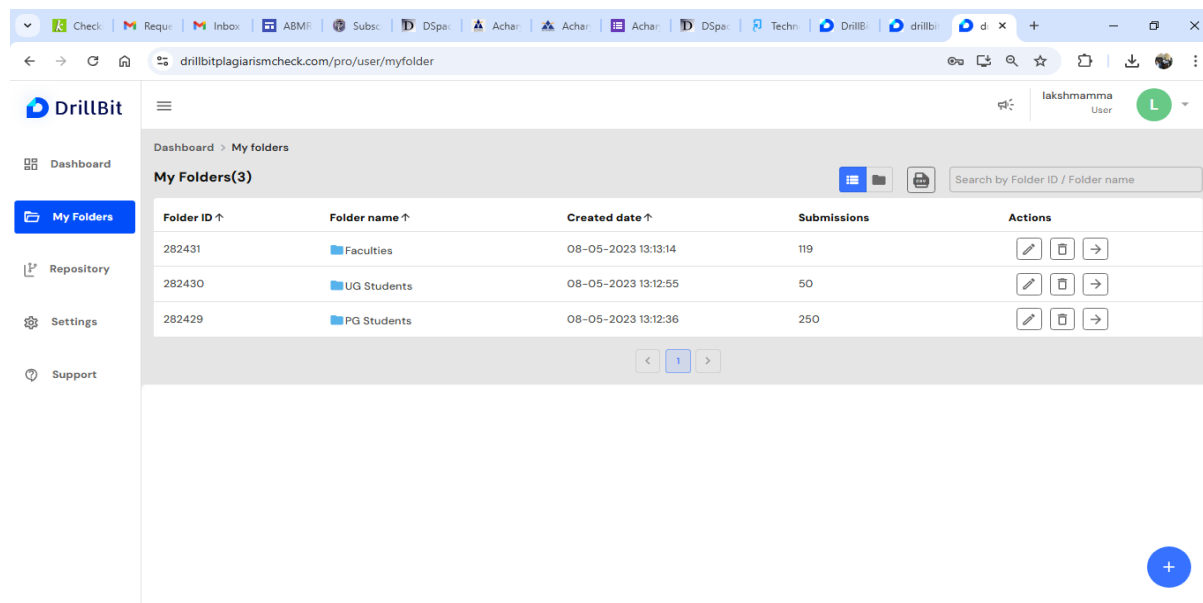
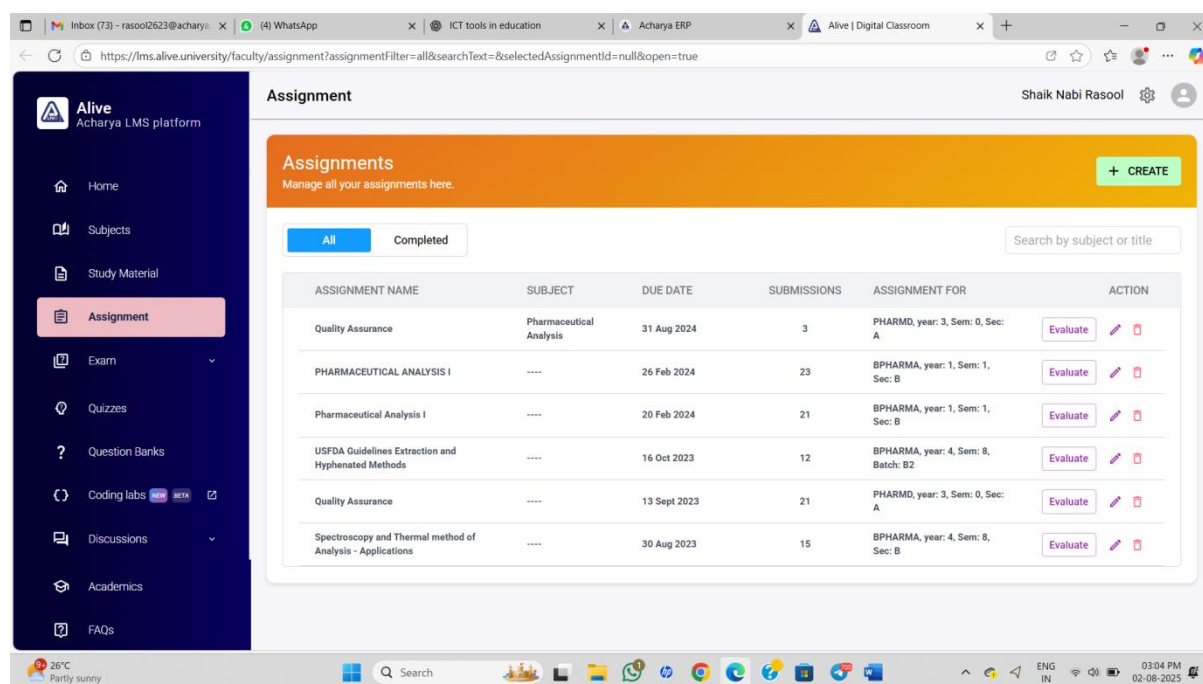


Figure 15: Plagiarism Software- Turnitin and Drill Bit for Identification of plagiarism in academic and professional writing



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URL: https://lms.alive.university/faculty/material

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MATERIAL NAME	SUBJECT-CODE	CREATED ON	DOCUMENT COUNT
BP102T_Pharmaceutical Analysis	Pharmaceutical Analysis I - BP102T	15-01-2024	6
BP811ET_Advanced Instrumentation Techniques	Advanced Instrumentation Techniques - BP811ET	30-09-2023	8

Rows per page: 50 1-2 of 2

26°C Partly sunny 03:04 PM 02-08-2025

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POCT Pharmaceutical Organic Chemistry I - Theory (BP202T) POC-I BPT	POC- Pharmaceutical Organic Chemistry - Practical (PD109P) POC-PDP	PAP Pharmaceutical Analysis Practical-II (MPA206P) PA-PR-II II SEM
AITE Advanced Instrumentation Techniques - Electives (BP811ET) ADV INS TECH BPET	A Food Analysis (MPA104T) FA	PAP Pharmaceutical Analysis - Practical (PD308P) PHARM ANALYSIS-PDP
PAT Pharmaceutical Analysis - Theory (PD302T) PHARM ANALYSIS-PDT	PA Pharmaceutical Analysis I Pr (BP108P) PHARM ANALYSIS-I PR	PA Pharmaceutical Analysis I (BP102T) PHARM ANALYSIS-I

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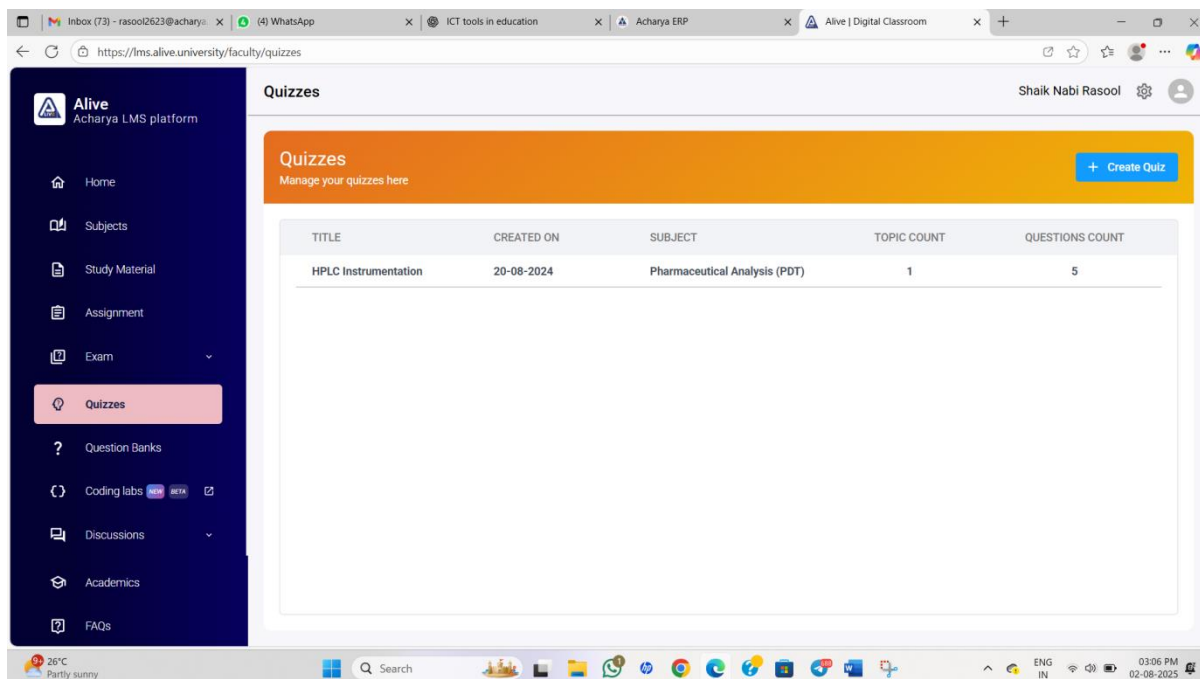
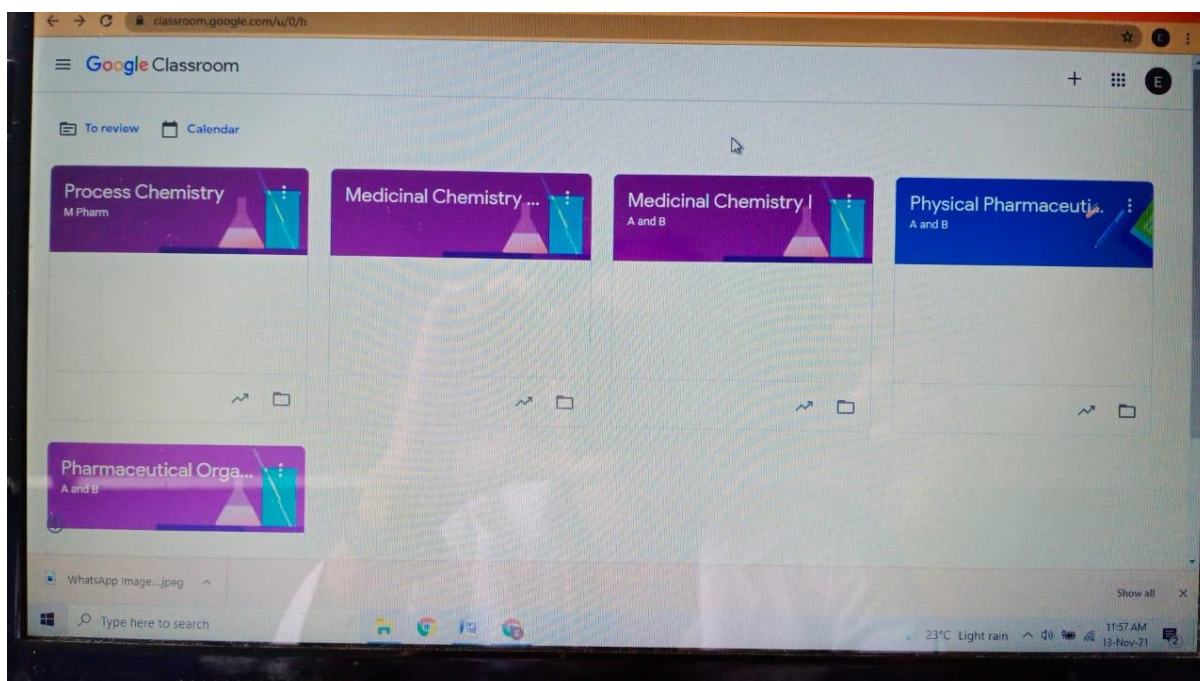


Figure 16: Alive learning platform for Online classes, virtual lectures, notes, study materials, Assignment and examination.



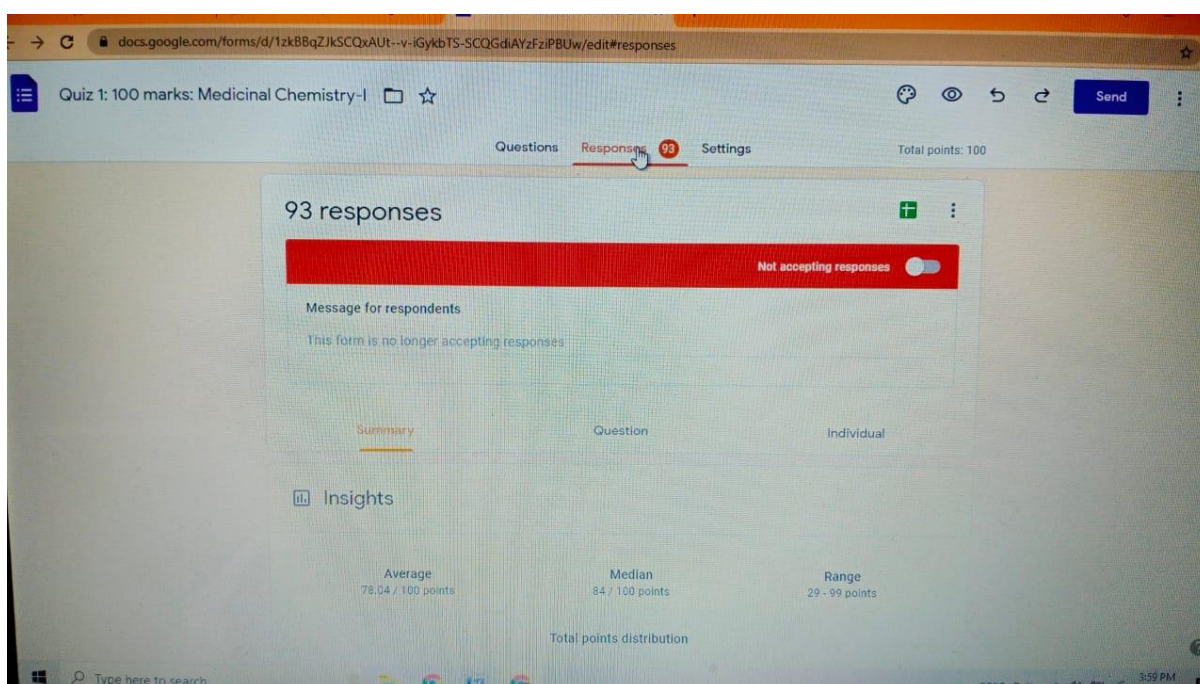
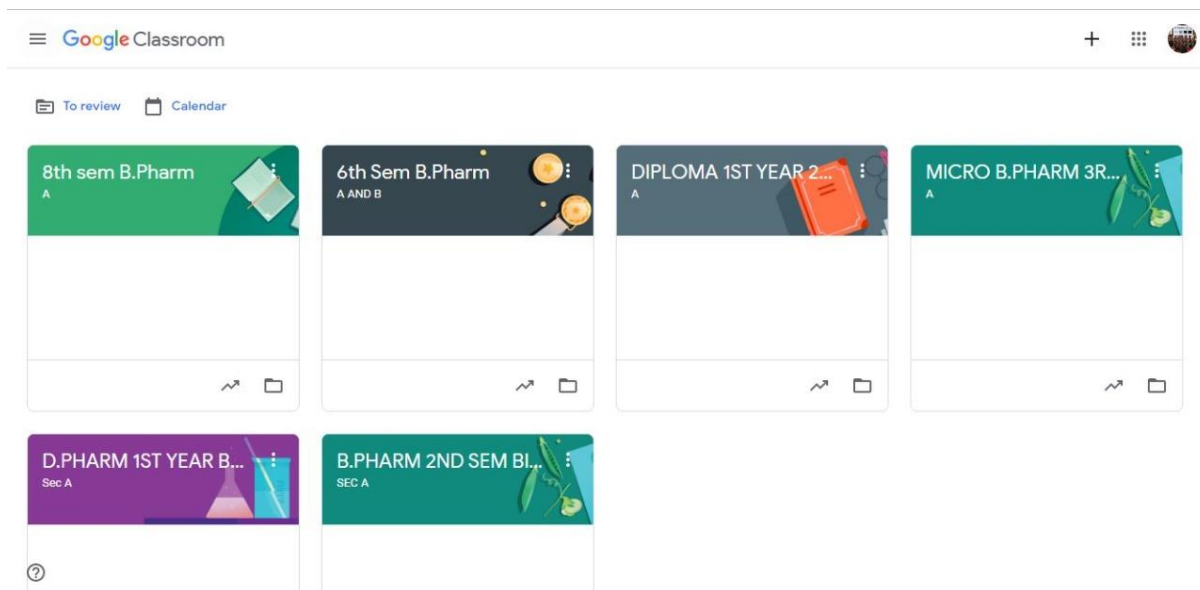
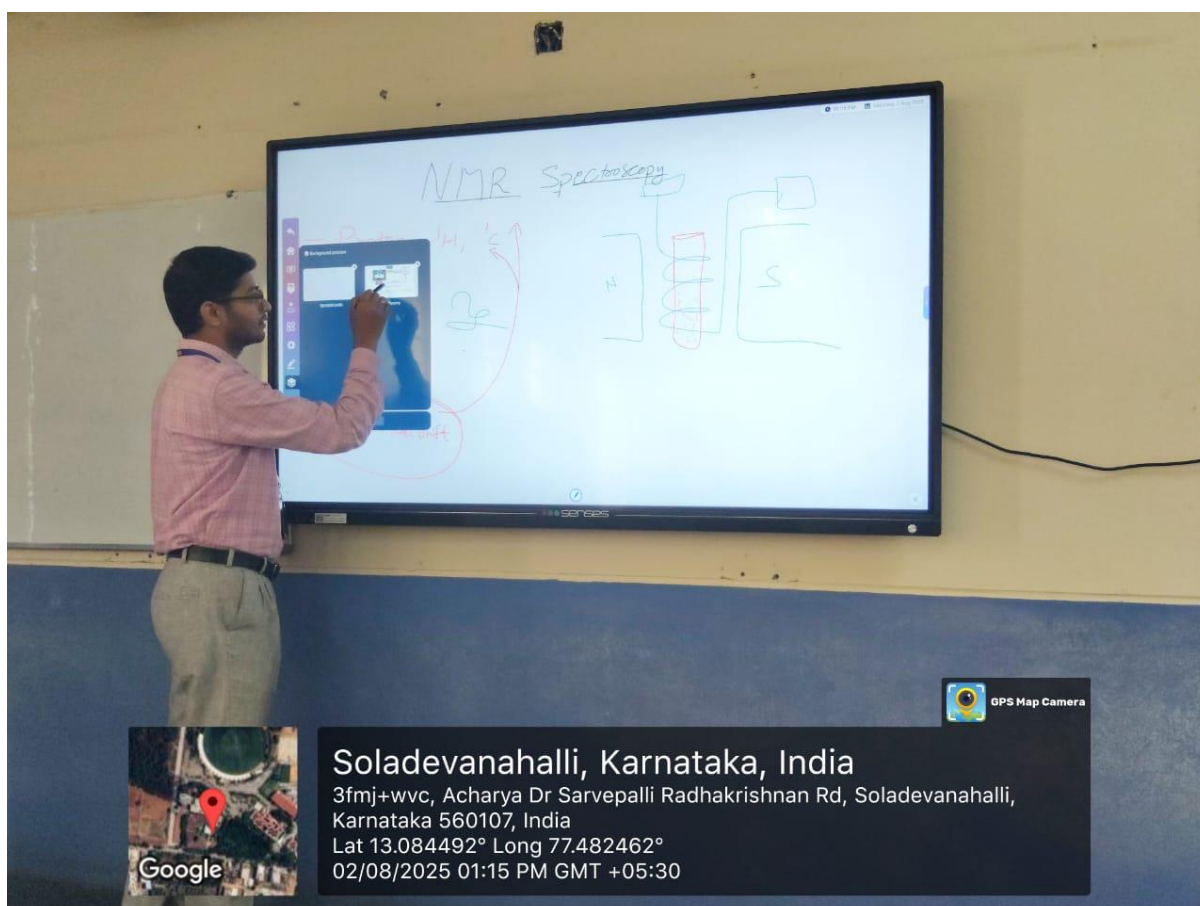
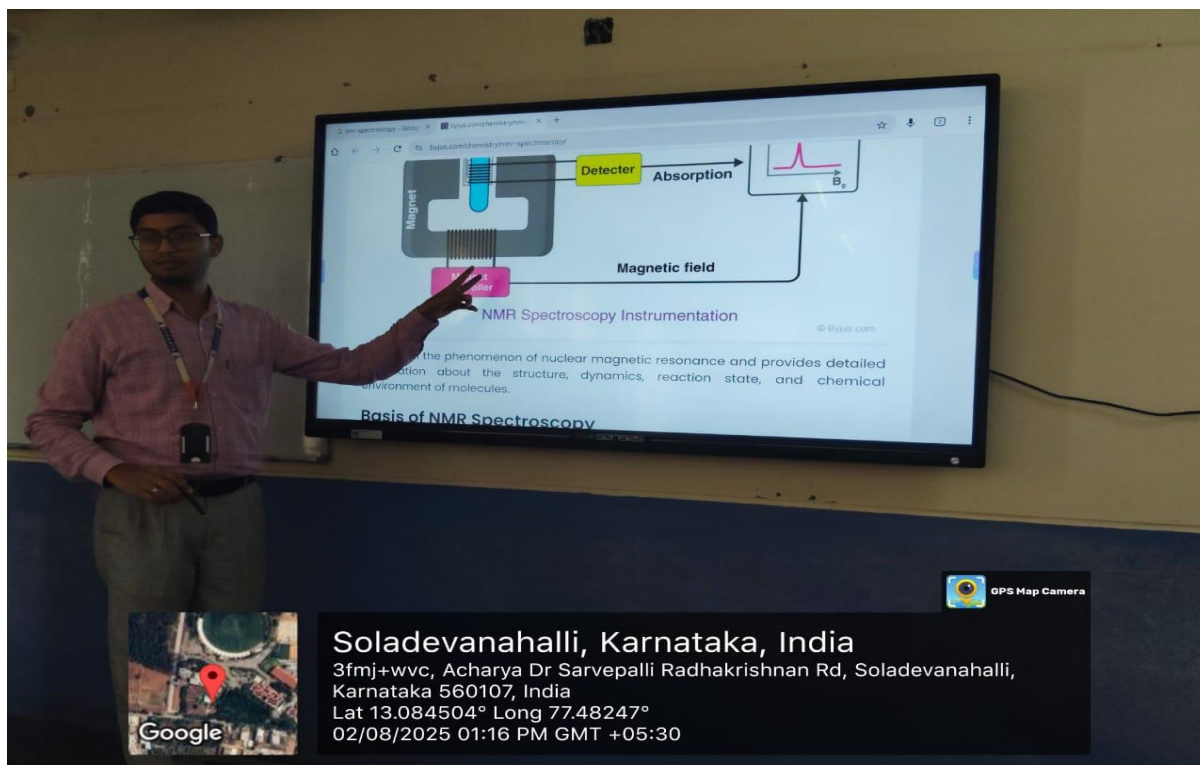


Figure 8: Google Classroom for Assignment management, quizzes, communication



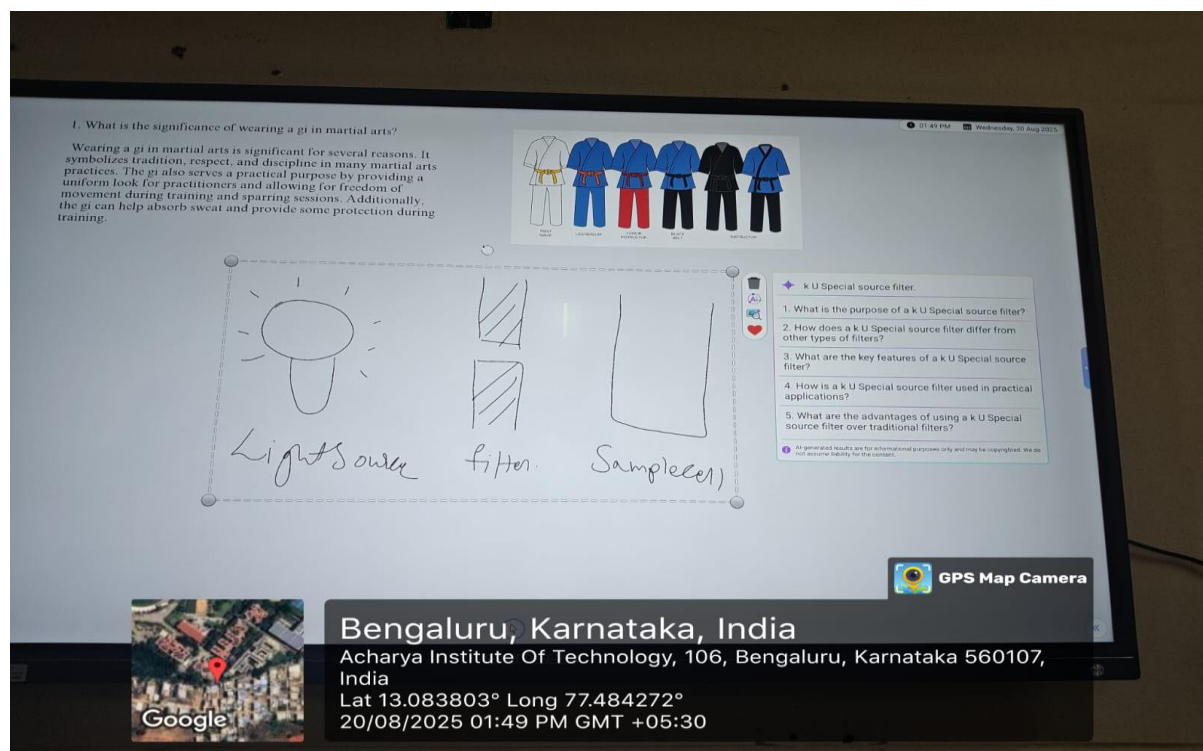


Figure 18: Smart board for interactive teaching, real-time visualization and AI Integrated Smart Board for active teaching