

1.1.3 Teachers of the Institution participate in following activities related to curriculum development and assessment of the affiliating University and/are represented on the following academic bodies during the year 2024-25

### 3. DESIGN AND DEVELOPMENT OF CURRICULUM FOR ADD ON/ CERTIFICATE PROGRAMMES

Sl.No	Name of Teacher	Description	PageNo.
1	Dr.M.Karthik		18
2.	Dr.J.B.Narendra		15
3.	Ms.P.Ratna Kumari	Focus on Education , Early detection , and Prevention Strategies against Cervical and Breast cancer in Women- Add on course curriculum Design	17
4.	Dr.P.S.V.M.Deepika		16
5.	Mr. SK.Rafi		1
6.	Ms. L.Parinaya Sri	Allosteric Modulators and baised ligands- Add on course curriculum Design	2
7.	Ms.T.S.Sowkhy		3
8	Mr.K.Jackriah		4
9.	Dr.G.Sowjanya	Microbial Biotechnology for Transforming Environmental residues into Valuable Products- Add on course curriculum Design	12
10.	Ms.G.Tejaswi	EthanoPharmacology and Traditional Medicinal System	14

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11.	Mr.D.Nagasen	Ethosomal Drug Delivery- Add on course curriculum Design	10
12.	Dr.C.H.S.P.Kumar		5
13.	Mr.T.Uday Kumar		6
14.	Mr.G.Ramakrshna		8
15.	Mrs.G.Srdevi		9
16.	Mrs.V.P.S.Sree		7
17.	Mrs.K.Pushpalatha		11
18.	Dr.D.Sathis Kumar	Dynamic excitation Methods: Understanding Spark and Flash Emission Spectroscopy for Material Characterisation- Add on course curriculum Design	19
19.	Dr.P.B.Rao		23
20.	Ms.B.Sujiya		24
21.	Ms.C.L.Madhavi		22
22.	Mrs. M.Sarika		20
23.	Ms.S.V.Swaroop		21
24.	Dr.P.S.S.Sai kiran		27
25.	Mrs.G.Prsanthi	Recent Advances in Pre-Clinical Pharmacology - Add on course curriculum Design	26
26.	Ms.K.SudhaRani		29
27.	Mrs.S.Nageswararao		25
28.	Mrs.T.Gowthami		28
29.	Dr.Y.PavanKumar	Interdisciplinary approaches to Patient care: The Evolving Role of Clinical Pharmacists- Add on course curriculum Design	13

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## CERTIFICATE OF CONTRIBUTION

This is to certify that

**Mr. SHAIK RAFI**

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had contributed in the Training Program 2024 on “ALLOSTERIC  
MODULATORS AND BIASED LIGAND”

organized by **ADITYA PHARMACY COLLEGE** from 04-11-2024 to 08-11-2024

His / Her Contribution is highly appreciated.

*N. Satishe Reddy*

**DR. N. SATISH REDDY**  
VICE-CHAIRMAN



*D. Sathish Kumar*

**DR. D. SATHIS KUMAR**  
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**DR. N. SATISH REDDY**

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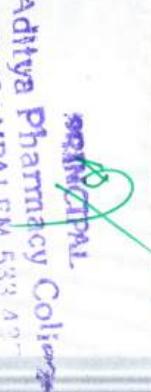
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This is to certify that

**Dr. CH.S.PHANI KUMAR**  
(ADITYA PHARMACY COLLEGE)  
Had contributed in the Training Program 2024 on “ETHOSOMAL  
DRUG DELIVERY”

organized by **ADITYA PHARMACY COLLEGE** from 09-09-2024 to 13-09-2024

His / Her Contribution is highly appreciated.

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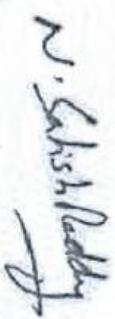
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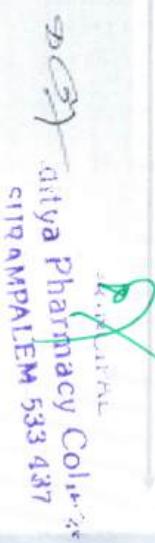


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**DR. N. SATISH REDDY**

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This is to certify that

Mr. Y. PAVAN KUMAR

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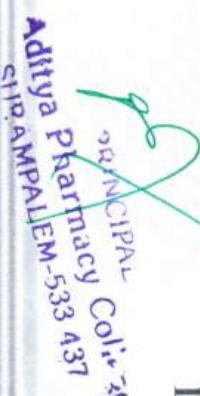
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*D. Sathish Kumar*

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This is to certify that

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had contributed in the Training Program 2024 on "FOCUS ON EDUCATION,  
**EARLY DETECTION & PREVENTION STRATEGIES AGAINST CERVICAL AND**  
**BREAST CANCER IN WOMEN.**"

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**DR. N. SATISH REDDY**

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**VICE-CHAIRMAN**

**DR. D. SATHIS KUMAR**

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This is to certify that

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SPECTROSCOPY (SUPER NOVA)”  
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His / Her Contribution is highly appreciated.

*N. Sathish Reddy*



**DR. N. SATISH REDDY**  
**VICE-CHAIRMAN**

*DR. D. SATHIS KUMAR*

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*N. Lakshmi Reddy*



**DR. N. SATISH REDDY**

VICE-CHAIRMAN

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His / Her Contribution is highly appreciated.

N. Satis Reddy



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N. Satis Reddy



**DR. N. SATISH REDDY**

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(ADITYA PHARMACY COLLEGE)



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His / Her Contribution is highly appreciated.

*N. Lakshmi Reddy*



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*DR. D. SATHIS KUMAR*

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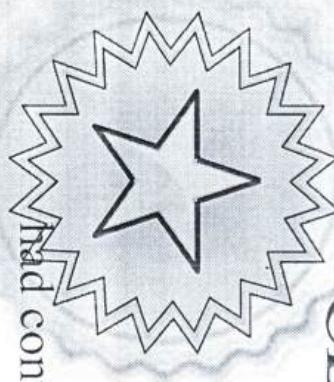
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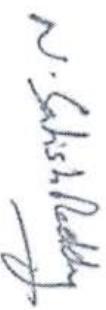


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His / Her Contribution is highly appreciated.



DR. N. SATISH REDDY

VICE-CHAIRMAN



DR. D. SATISH KUMAR

PRINCIPAL



Dr. D. SATISH KUMAR  
PRINCIPAL  
Aditya Pharmacy College  
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Website: [www.adityapharmacy.edu.in](http://www.adityapharmacy.edu.in) Email: [office@adityapharmacy.edu.in](mailto:office@adityapharmacy.edu.in)

## CERTIFICATE OF CONTRIBUTION

This is to certify that

**Dr. S. NAGESWARA RAO**  
(ADITYA PHARMACY COLLEGE)

had contributed in the Training Program 2024 on  
“RECENT ADVANCES IN PRE-CLINICAL PHARMACOLOGY”,

organized by *ADITYA PHARMACY COLLEGE* from 05-08-2024 to 09-08-2024.

His / Her Contribution is highly appreciated.

*N. Lakshmi Reddy*

Dr. N. Satsun Reddy

Vice-chairman



*Dr. D. SATHIS KUMAR*

principal

*Dr. D. SATHIS KUMAR*  
PRINCIPAL  
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## CERTIFICATE OF CONTRIBUTION

This is to certify that

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His / Her Contribution is highly appreciated.

*N. Lakshmi Reddy*



Dr. N. Sathish Kumar

principal

*D. Sathish Kumar*  
Dr. D.SATHIS KUMAR  
principal  
aditya Pharmacy College  
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Vice-chairman



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had contributed in the Training Program 2024 on

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His / Her Contribution is highly appreciated.

*N. Lakshmi Reddy*

Dr. N. Sausan Keddy

Vice-chairman



*D.S. KUMAR*

Dr. D.SATHIS KUMAR  
principal

*D.S. KUMAR*  
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## CERTIFICATE OF CONTRIBUTION

This is to certify that

**Mrs. T. GOWTHAMI**

(ADITYA PHARMACY COLLEGE)

had contributed in the Training Program 2024 on

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organized by **ADITYA PHARMACY COLLEGE** from **05-08-2024** to **09-08-2024**.

His / Her Contribution is highly appreciated.

Dr. N. Sausan Reddy

Vice-chairman



Dr . D.SATHIS KUMAR

principal





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## CERTIFICATE OF CONTRIBUTION

This is to certify that

**Ms. K. SUDHARANI**

(ADITYA PHARMACY COLLEGE)

had contributed in the Training Program 2024 on

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His / Her Contribution is highly appreciated.

Dr. N. Sathish Keady

Vice-chairman

  
Dr . D.SATHIS KUMAR

principal

  
Dr . D.SATHIS KUMAR  
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## ADITYA PHARMACY COLLEGE (A)

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Website: [www.adityapharmacy.edu.in](http://www.adityapharmacy.edu.in), Email: [office@adityapharmacy.edu.in](mailto:office@adityapharmacy.edu.in)

### A 5-DAY VALUE-ADDED CERTIFICATE COURSE TITLE: INTERDISCIPLINARY APPROACHES TO PATIENT CARE: THE EVOLVING ROLE OF CLINICAL PHARMACISTS DETAILED COURSE SYLLABUS

**Day 1 - 11th February 2025**

#### Topic: Clinical Pharmacist's Role in Handling Poisoning Cases and Drug Overdose

- Overview of Poisoning and Overdose management in Hospital Settings
- Role of Clinical Pharmacist in identification and initial management of Poison Cases
- Common Toxins and their Antidotes
- Monitoring and Supportive Care in poisoning cases
- Documentation, Communication, and follow-up in toxicology services

**Day 2 - 12th February 2025**

#### Topic: Cardiovascular Pharmacotherapy and Clinical Decision-Making

- Introduction to Cardiovascular Pharmacotherapy
- Role of Clinical Pharmacists in Cardiac Care units
- Antiplatelet and Anticoagulant Therapy Management
- Heart Failure Pharmacological management
- Interpretation of ECG and Clinical Decision-making in Cardiovascular Care

**Day 3 - 13th February 2025**

#### Topic: Clinical Pharmacist's Role in Nephrotherapeutics and Renal Drug Optimization

- Renal Pharmacokinetics and Dose Adjustments in CKD
- Monitoring Nephrotoxic Medications and Drug interactions
- Therapeutic Drug Monitoring (TDM) in Renal patients

- Managing Electrolyte Imbalances and Fluid therapy

- Polypharmacy and Rational Drug use in nephrology

**Day 4 - 14th February 2025**

#### Topic: Medication Matters: The Clinical Pharmacist's Role in Digestive Health

- Overview of gastrointestinal pharmacotherapy
- Common GI disorders and associated drug regimens
- Medication safety and drug-food interactions in GI care
- Counselling patients with GI disorders
- Role of Clinical Pharmacists in GI diagnostic procedures and follow-up

**Day 5 - 15th February 2025**

#### Topic: Clinical Pharmacist at the Heart of Patient Care: Bridging Therapeutics with Clinical Outcome:

- Multidisciplinary collaboration and Clinical Decision-making
- Clinical Pharmacist's role in improving healthcare outcomes
- Patient Counselling, Monitoring, and follow-up strategies
- Enhancing Therapeutic outcomes through Clinical Pharmacy services
- Case-based discussion on Integrated Care approach

Course Coordinator



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ACADEMIC YEAR: 2024-25  
COURSE SYLLABUS

## COURSE NAME: "Allosteric Modulators and Biased Ligands"

COURSE OBJECTIVE: (30 HRS)

- Understand the structural and functional differences between orthosteric and allosteric binding.
- Learn how receptor signaling bias influences pharmacological response.
- Explore real-world drug examples employing allosteric modulation and biased signaling.
- Gain skills in applying these concepts to rational drug design and therapeutic innovation.

Day I: 04-11-2024

### Module I:

- Ligand types: agonist, antagonist, inverse agonist
- Signal transduction pathways (GPCRs, RTKs, ion channels)
- Orthosteric vs allosteric binding

Day 2: 05-11-2024

### Module II:

- Allosteric site concept
- Positive and negative modulators
- Neutral ligands and their role
- Cooperativity and therapeutic ceiling

Day 3: 06-11-24

### Module III:

- Biased signaling in GPCRs
- G protein vs  $\beta$ -arrestin pathway
- Biased agonists vs traditional agonists
- Clinical implications

Day 4: 07-11-2024

### Module IV:

- Molecular docking basics
- Visualization of orthosteric and allosteric binding
- Introduction to tools: AutoDock, PyMOL, Discovery Studio
- Interpreting docking scores and RMSD values

Day 5: 08-11-24

### Module V:

- FDA and EMA-approved allosteric and biased drugs
- Drug pipeline examples (CNS, cardiovascular, metabolic diseases)
- Regulatory and ethical considerations
- Career options: Clinical pharmacology, drug discovery, regulatory affairs

### REFERENCE:

1. <https://www.pharmacareers.in/receptor-theories-and-classification-of-receptors-regulation-of-receptors/>
2. <https://www.chemistryjournals.net/archives/2022/vol4issue2/PartF/6-2-9-286.pdf>
3. <https://www.click2drug.org/>
4. [https://www.rsc.org/images/David-Hall\\_tcm18-243490.pdf](https://www.rsc.org/images/David-Hall_tcm18-243490.pdf)



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7/10/24

**Course Outcomes:**

- Understand receptor pharmacology beyond traditional agonist-antagonist models.
- Gain insight into how modern therapeutics exploit these mechanisms.
- Be able to interpret current research trends and drug development strategies involving allosteric and biased ligands.



Course Coordinator



Principal

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(Formerly known as Aditya Institute of Pharmaceutical Sciences & Research)

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## COURSE SYLLABUS

### A 5-DAY VALUE-ADDED CERTIFICATION COURSE TITLED "ETHNOPHARMACOLOGY AND TRADITIONAL MEDICINE SYSTEMS"

Course Duration: 14th to 18th October 2024

ACADEMIC YEAR 2024-2025

**Day 1 : 14-10-2024**

**MODULE 1 :** Introduction to Ethnopharmacology: Foundations, Documentation Methods, and Ethical Practices

- Introduction to Ethnopharmacology: History, Definitions, and Significance
- Documentation Methods and Ethical Considerations in Ethnopharmacology

**Day 2: 15-10-2024**

**MODULE 2 :** Traditional Medicine Systems: From East to West - Exploring Chinese, Ayurvedic, and Unani Therapeutic Traditions

- Traditional Chinese Medicine: Theories, Pharmacopoeia, and Modern Applications
- Ayurvedic and Unani Medicine: Principles, Practices, and Comparative Analysis

**Day 3: 16-10-2024**

**MODULE 3:** Indigenous Medicine Systems Across Continents: American, African, and Australian Aboriginal Healing Traditions

- North and South American Traditional Medicine Systems and Plant Knowledge
- African and Australian Aboriginal Medicine: Cultural Healing Traditions

**Day 4 : 17-10-2024**

**MODULE 4:** Phytochemical Exploration: From Traditional Plants to Modern Pharmaceuticals - Discovery, Analysis, and Development

- From Plants to Pharmaceuticals: Phytochemistry and Drug Discovery Process
- Laboratory Techniques in Ethnopharmacology: Extraction, Analysis, and Testing

**Day 5 : 18-10-2024**

**MODULE 5:** Evidence-Based Traditional Medicine: From Clinical Validation to Integrative Healthcare Models

- Evidence-Based Evaluation of Traditional Medicines and Clinical Trials
- Integrative Healthcare Models: Bridging Traditional and Conventional Medicine, Integration



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## Microbial Biotechnology for Transforming Environmental Residues into Valuable Products

### Course Description:

This course explores the use of microbial biotechnology to convert environmental residues such as agricultural waste, industrial by-products, and municipal waste into high-value products including biofuels, bioplastics, enzymes, and organic acids. Students will learn the principles of microbial metabolism, genetic engineering, and process optimization, and examine real-world applications in sustainable waste management and circular bioeconomy. The course will also discuss technical, economic, and regulatory challenges, especially in resource-constrained settings.

### Learning Objectives:

- Understand the types and sources of environmental residues and their impact on the environment.
- Gain knowledge of microbial metabolic pathways involved in bioconversion.
- Explore tools of microbial biotechnology including fermentation, metabolic engineering, and synthetic biology.
- Evaluate technologies for transforming waste into biofuels, bioplastics, and other value-added products.
- Analyze case studies demonstrating successful waste-to-product conversions.
- Assess the technical, economic, and regulatory challenges in scaling up biotechnological processes.
- Discuss sustainability and the role of microbial biotechnology in the circular economy.

### Course Structure:

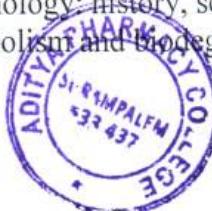
The course will be delivered through lectures, lab demonstrations, group discussions, and case-based learning. Guest lectures by industry experts and environmental scientists will provide practical insights. Students will participate in interactive activities including project proposals, presentations, and a capstone assessment.

### Course Syllabus:

#### Module 1:

##### Day 1: Introduction to Environmental Residues & Microbial Biotechnology

- Types of environmental residues: agricultural, industrial, municipal
- Environmental challenges posed by waste accumulation
- Overview of microbial biotechnology: history, scope, and relevance
- Introduction to microbial metabolism and bio-degradation



12-9-2024

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## Module 2:

### Day 2: Microbial Conversion of Residues to Biofuels and Energy

- Microbial fermentation and anaerobic digestion
- Production of bioethanol, biogas, and biodiesel from residues
- Engineering microbes for enhanced biofuel production
- Case studies of industrial applications in energy recovery

## Module 3:

### Day 3: Bioplastics, Enzymes, and Organic Acids from Waste

- Microbial synthesis of bioplastics (e.g., PHAs) from organic waste
- Enzyme production for industrial use (e.g., cellulases, proteases)
- Microbial production of organic acids (lactic, succinic, acetic acids)
- Integrative biorefinery concepts

## Module 4:

### Day 4: Challenges, Opportunities, and Innovations

- Process optimization, scale-up, and bioreactor design
- Economic and regulatory constraints
- Waste-to-product strategies in low-resource settings
- Presentations on proposed bioconversion projects
- Emerging trends: synthetic biology, CRISPR, AI in bioprocessing

## Module 5:

### Day 5: Review Session and Final Exam, Certificates Distribution

- Comprehensive review and open discussion
- Capstone project evaluation
- Final exam
- Certification ceremony and closing remarks

## References:

1. Singh, A., & Ward, O. P. (2004). Biodegradation and bioremediation. *Springer Science & Business Media*.
2. Chen, G. Q., & Patel, M. K. (2012). Plastics derived from biological sources: Present and future. *Chemical Reviews*, 112(4), 2082–2099.
3. Mohan, S. V., et al. (2016). Waste to bioenergy: A review on the recent conversion technologies. *Bioresource Technology*, 215, 2–12.
4. Timmis, K. N., et al. (2017). The contribution of microbial biotechnology to sustainable development goals. *Microbial Biotechnology*, 10(5), 984–987.
5. <https://www.unep.org/>
6. <https://www.fao.org/>
7. <https://www.biotechnologyforbiofuels.com/>



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## Course Syllabus

### **COURSE NAME : FOCUS ON EDUCATION, EARLY DETECTION & PREVENTION STRATEGIES AGAINST CERVICAL AND BREAST CANCER IN WOMEN.**

#### **COURSE OBJECTIVES :**

- \* To understand concept of creating awareness of cancer in women.
- \*To Know about Preventive methods of Breast and cervical cancer.
- \*To know the strategies to overcome cervical and breast cancer in women.

**Day 1 : 20/1/2025**

#### **MODULE 1:**

- a. Introduction to cervical and breast Health: Together against cancer
- b. The pathophysiology of cervical and breast cancer
- c. Pharmacology of Anticancer drug
- d. Therapeutic management of cervical and breast cancer.

**Day 2 : 21/1/2025**

#### **MODULE 2:**

- 2. Problems occurred due to cervical and breast cancer.
- a. Breast cancer : presence of breast lumps ,nipple discharge,visible skin changes, pain, and swelling in the breast area
- b. cervical cancer : unusual vaginal bleeding, persistent pelvic pain, painful intercourse and abnormal vaginal discharge.
- c. Advanced stages may results in metastasis to bones, liver, or lung leading to multipl- organ complications.

**Day 3 : 22/1/2025**

#### **MODULE 3:**

- 3. Strategies for Global COVID-19 Clinical Data management.
- a. WHO Global Initiative on cervical cancer Elimination
- b. Global breast cancer initiative (GBCI).

**Day 4: 23/1/2025**

#### **MODULE 4:**



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4. Monitoring and Imaging techniques
  - a. Cervical Cancer Screening: Pap smear ,HPV DNA testing

**Day 5 : 24/1/2025**

**MODULE 5:**

5. Imaging: Colposcopy, pelvic MRI , transvaginal ultrasound
  - a. Breast cancer : Mammography (gold standard) , breast ultrasound, MRI PET-CT for staging and follow-up of metastatic disease.

**REFERENCES :**

1. <https://my.clevelandclinic.org/health/diseases/12216-cervical-cancer>.
2. <https://www.who.int/news-room/fact-sheets/detail/cervical-cancer>
3. <https://www.cancer.org/cancer/types/breast-cancer/about/what-is-breast-cancer.html>.

**COURSE OUTCOMES:**

- \* To learn the strategies to detect & overcome Breast & Cervical cancers.
- \* To learn the preventive measures & life style modifications of Breast and cervical cancers in women.

Course Coordinator:

P.S.V.H. Deepika



Principal. *PK* *✓*  
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# ADITYA PHARMACY COLLEGE

(Formerly known as Aditya Institute of Pharmaceutical Sciences & Research)



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ACADEMIC YEAR: 2024-25

## COURSE SYLLBUS

**COURSE NAME:** "Dynamic Excitation Methods: Understanding Spark and Flash Emission spectroscopy for material characterization".

**COURSE OBJECTIVE:** (30 HRS)

- To understand the Investigating Material Composition of various materials with high precision using spark excitation source, spark stand or flash excitation techniques.
- To understand the Enhancing Spectroscopic Accuracy and sensitivity of spectroscopic measurements by optimizing dynamic excitation methods.
- To understand the Characterizing Microstructural Properties
- To understand the Developing Advanced Analytical Applications such as detecting trace elements or impurities in materials.

**Day 1: 22-07-2024**

**Module 1: Introduction & Brief History (Arc Spark Optical Emission spectrometry)**

- Bright light development from flame
- Comparison of spark and flame spectra lines

**Day 2: 23-07-2024**

**Module 2: Principle & Instrumentation**

- Interaction between electrical energy and metal sample
- Spark / Arc excitation source
- DC & AC Arc excitation source

**Day 3: 24-07-2024**

**Module 3: Working of OES**

- Excitation source cycle
- Detection System and Applications

**Flash Emission Spectroscopy Introduction**

**Day 4: 25-07-2024**

**Module 4: Historical Development of Supernova Method**

- General View of Super Nova
- Spectra

**Day 5: 26-07-2024**

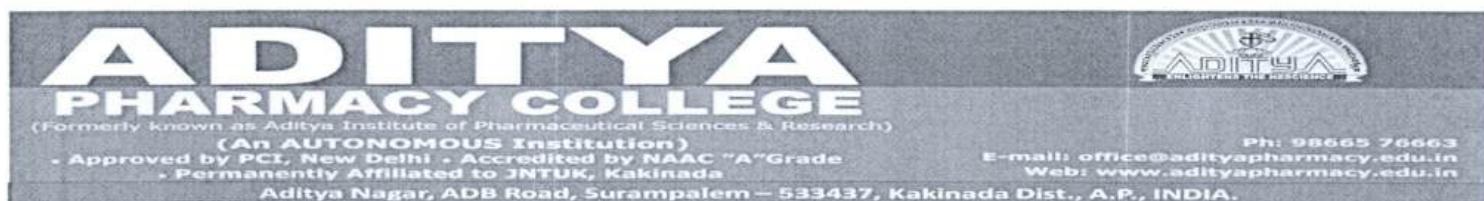
**Module 5: Light Curves & Spectral Evaluation**

- Homogeneity
- Heterogeneity
- Applications



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## COURSE SYLLABUS

### "RECENT ADVANCES IN PRE-CLINICAL PHARMACOLOGY"

**MODULE -1 05-08-2024**

#### **Day 1: Introduction to pre-clinical pharmacology:**

Speaker: Dr. P.S.S. Sai Kiran, Associate Professor, Aditya Pharmacy College, Surampalem

Introduction to pre-clinical pharmacology

Helps in determination of drug safety

Helps in determination of drug efficacy

**MODULE -2 06-08-2024**

#### **Day 2: Emerging trends in pre-clinical drug discovery:**

Speaker: Mr. S. Nageswara Rao, Associate Professor, Aditya Pharmacy College

Overview of the drug discovery pipeline.

Recent shifts in preclinical R& D

Role of AI in early drug screening

**MODULE -3 07-08-2024**

#### **Day 3: Advanced Techniques in Pre-Clinical Pharmacology**

Speaker: Mr. Mrs. G. Prasanthi Assistant Professor, Aditya Pharmacy College

Omics technologies in drug discovery

Single-cell analysis and spatial transcriptomics

Advancements in animal models for pharmacological research

**MODULE -4 08-08-2024**

#### **Day 4: Translational Pharmacology:**

Speaker: Mrs. T. Gowthami Assistant Professor, Aditya Pharmacy College, Surampalem

Bridging pre-clinical and clinical pharmacology

Designing translational studies

Regulatory considerations for IND submission



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Pharmacokinetic and pharmacodynamic modeling

**MODULE -5 09-08-2024**

**Day 5: Emerging Trends and Technologies**

Speaker: Mrs. M. Lalitha kala Assistant Professor, Aditya Pharmacy College, Surampalem

Artificial intelligence in drug discovery

3D cell culture models and organ-on-a-chip technologies

Advancements in drug delivery systems

Sustainability in pharmacological research

Integrating new technologies into pre-clinical studies

A handwritten signature in blue ink, appearing to read 'M. Lalitha kala'.

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### COURSE SYLLABUS

**Course Title:** Ethosomes

**Course Duration:** 30 Hours

**Academic Year:** 2024-25

#### **Course Description:**

This add-on course provides an in-depth understanding of ethosomal drug delivery systems, focusing on their composition, mechanism of action, formulation techniques, characterization, and pharmaceutical applications. The course will also explore the advantages of ethosomes in transdermal and targeted drug delivery, addressing challenges and future advancements in this field.

#### **Course Objectives:**

Upon completion of the course, students will be able to:

- Understand the principles and significance of ethosomal drug delivery.
- Learn various formulation and preparation techniques for ethosomes.
- Study the characterization and evaluation methods of ethosomes.
- Explore the applications of ethosomes in pharmaceutical and cosmetic industries.
- Identify the challenges and future trends in ethosomal drug delivery.

#### **Course Modules and Schedule:**

Day 1: 09-09-2024

#### **Module I: Introduction to Ethosomal Drug Delivery System**

- Overview of novel drug delivery systems.
- Introduction to ethosomes and their significance.
- Composition and mechanism of action of ethosomes.



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Day 2: 10-09-2024

### **Module II: Formulation and Preparation of Ethosomes**

- Various formulation techniques of ethosomes.
- Factors influencing ethosomal formulations.
- Optimization and stability considerations in ethosomal systems.

Day 3: 11-09-2024

### **Module III: Characterization and Evaluation of Ethosomes**

- Particle size, morphology, and entrapment efficiency.
- In-vitro and ex-vivo evaluation techniques.
- Stability studies and quality control parameters.

Day 4: 12-09-2024

### **Module IV: Applications of Ethosomal Drug Delivery**

- Role of ethosomes in transdermal and targeted drug delivery.
- Applications in pharmaceutical, cosmeceutical, and dermatological formulations.
- Case studies on marketed ethosomal formulations.

Day 5: 13-09-2024

### **Module V: Challenges and Future Perspectives**

- Limitations and challenges in ethosomal drug delivery.
- Advances in ethosomal research and development.
- Future trends and commercial potential of ethosomal systems.

### **References:**

1. Touitou, E., & Godin, B. (2000). *Ethosomes – Novel Vesicular Carriers for Enhanced Transdermal Delivery*. Journal of Controlled Release.
2. Verma, P., & Pathak, K. (2010). *Therapeutic and Cosmeceutical Potential of Ethosomes – A Review*. Journal of Advanced Pharmaceutical Technology & Research.
3. Mishra, D., Mishra, P.K., Dabaghao, S., & Jain, N.K. (2007). *Evaluation of Ethosomes as Efficient Carriers for Transdermal Delivery of Amphotericin B*. International Journal of Drug Delivery.

Course Coordinator

*Dhe*



*14/9/13*  
Principal  
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