



ESTABLISHED BY GOVT. OF KERALA

**DEPARTMENT OF  
PHARMACEUTICAL SCIENCES,  
CPAS, SME, PUTHUPPALLY**

**PROJECT  
ABSTRACTS**

**2025 - 2026**

**UG AND PG (PHARMACEUTICS)**



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## SCIENTIFIC BOARD

1. Prof. Dr. Arun Raj R
2. Prof. Dr. Beena Thomas
3. Mr. Sudhir M.R
4. Prof . Dr.Sujesh M
5. Mrs. Neema George
6. Mr. Anuroop U P
7. Ms.Bidhu Viswan

## VISION OF THE COLLEGE

- **Excellence in Education:** To establish an internationally recognized center of excellence for pharmaceutical sciences and research.
- **Healthcare Advancement:** To transform healthcare delivery and improve community wellness through cutting-edge medical discoveries and practices.
- **Global Competitiveness:** To shape graduates who are highly competitive, culturally sensitive, and ready to meet global health challenges.

## MISSION OF THE COLLEGE

- **Quality Teaching:** Imparting high-quality technical education through state-of-the-art infrastructure and student-centric teaching-learning processes.
- **Research and Innovation:** Fostering a research-driven environment that pushes the boundaries of pharmaceutical technology, drug development, and clinical sciences.
- **Ethical Practice:** Cultivating a strong sense of social responsibility, professional ethics, and lifelong learning in future pharmacists.

## LIST OF PROJECTS

| Project batch no | Name of the student                                                              | Project title                                                                                                                  | Name of the guide    |
|------------------|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|----------------------|
| M1               | Sreejith V                                                                       | Formulation, Optimization And Evaluation Of Etodolac Loaded Pharmacosomal Gel For Topical Application                          | Prof. Dr. Arun Raj R |
| M2               | Justeena Joy                                                                     | Formulation, Optimization And Evaluation Of Econazole Nitrate Nanofiber Loaded Buccal Patch                                    | Prof. Dr. Arun Raj R |
| M3               | Sarath S                                                                         | Formulation And Evaluation Of Cubosomal Film Forming Gel Of Baclofen                                                           | Mrs. Neema George    |
| M4               | Sandra Maria Santhosh                                                            | Formulation, Optimization And Evaluation Of Ofloxacin Loaded Niosomal Insitu Gel For Ocular Delivery                           | Prof. Dr. Arun Raj R |
| M5               | Nijila Mary Reji                                                                 | Formulation, Optimization And Evaluation Of Tinidazole Loaded Nanosponges Based Hydrogel                                       | Prof. Dr. Arun Raj R |
| M6               | Sneha Mohan                                                                      | Formulation, Optimization And Evaluation Of Sparfloxacin Loaded Nanofibrous Scaffold Using Polymer Blend For Wound Dressing    | Mrs. Neema George    |
| B1               | 1. Shawn Abraham<br>2. Sonu Sajan Peter<br>3. Ahilamol T Markose<br>4. Ebin Raja | A Comparative Analysis Of Price Differences Between Jan Aushadhi Generic Medicines And Branded Alternatives In Kottayam Region | Prof. Dr. Arun Raj R |

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|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------|
| B2 | <ol style="list-style-type: none"> <li>1. Alfiya.S</li> <li>2. Anjana K S</li> <li>3. Aparna Gandhi M B</li> <li>4. Sandhra S</li> </ol>                                 | Formulation And Evaluation Of Face Serum Using Extracts Of Butterfly Pea And Liquorice | Prof. Dr. Arun Raj R |
| B3 | <ol style="list-style-type: none"> <li>1. Afeena Abubakar</li> <li>2. Ardhra Anil</li> <li>3. Aleenamol P S</li> <li>4. Gayathri J</li> </ol>                            | Formulation And Evaluation Of Anti-Acne Gel With Cyclea Peltata And Aloe Vera          | Mr. Sudhir M R       |
| B4 | <ol style="list-style-type: none"> <li>1. Liya Sam</li> <li>2. Meera Saj</li> <li>3. Surya Hari</li> <li>4. Vishnupriya K Menon</li> </ol>                               | Formulation & Evaluation Of Herbal Lipstick Using Dragon Fruit Extract                 | Mrs.Neema George     |
| B5 | <ol style="list-style-type: none"> <li>1. Adithya P Kumar</li> <li>2. Aksa Mariam Thomas</li> <li>3. Alisha Kunjumon</li> <li>4. Aswathy B</li> </ol>                    | Formulation And Evaluation Of Microsponge Loaded Facegel Of Mentha Piperita            | Mrs.Neema George     |
| B6 | <ol style="list-style-type: none"> <li>1. Adithya R</li> <li>2. Anamika K</li> <li>3. Athulya R</li> <li>4. Hanna T N</li> <li>5. Malavika Ajeesh</li> </ol>             | Formulation And Evaluation Of Anti Acne Herbal Face Scrub Using Tamarind               | Mr Anuroop U P       |
| B7 | <ol style="list-style-type: none"> <li>1. Adithya Biju</li> <li>2. Akshaya S</li> <li>3. Athiramol M.B</li> <li>4. Devika Rajesh</li> </ol>                              | Formulation And Evaluation Of Polyherbal Cough Syrup                                   | Mr. Nikhil P. S      |
| B8 | <ol style="list-style-type: none"> <li>1. Ajina Sudheer</li> <li>2. Ammalu Saneesh</li> <li>3. Jessa Jaimon</li> <li>4. Nandana .S</li> <li>5. Tony Kuncharia</li> </ol> | Formulation And Evaluation Of Polyherbal Shampoo                                       | Mr. Nikhil P. S      |

## **ABSTRACTS OF M.PHARM**

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| <b>PROJECT BATCH NO</b> | <b>M1</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>PROJECT SUBJECT</b>  | Pharmaceutics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>PROJECT TEAM</b>     | Sreejith V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>PROJECT TITLE</b>    | Formulation, Optimization And Evaluation Of Etodolac Loaded Pharmacosomal Gel For Topical Application                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>PROJECT GUIDE</b>    | Prof. Dr. Arun Raj R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>ABSTRACT</b>         | <p>Etodolac is a COX-2 selective inhibitor that comes under BCS Class II drugs with characteristics of having poor aqueous solubility and restricted oral bioavailability, which frequently leads to gastrointestinal adverse effects. The limitations of these were overcome by using topical drug delivery via transdermal drug delivery systems. The current research work was aimed at the formulation, optimization, and characterization of Etodolac-loaded pharmacosomes. Pharmacosomal vesicles were developed by ether injection technique using diethyl ether and soya lecithin, and then optimized using Design Expert software (version 13) with soya lecithin and diethyl ether concentrations as independent factors and entrapment efficiency and drug release as response factors. The optimized formulation had 86.08% entrapment efficiency with a particle size of nanometre range, zeta potential indicating good stability, and good polydispersity index.</p> <p>The optimized pharmacosomes were incorporated in a Carbopol 934 gel base and its physicochemical properties such as pH, viscosity, spreadability, homogeneity, drug content, and in vitro drug diffusion studied. The optimized gel had acceptable pH (6.31), viscosity, spreadability (29.16 g.cm/sec), drug content (<math>84 \pm 1.48\%</math>), and sustained drug release (77.67% at 6 hours). Kinetic modelling indicated that the release obeyed zero-order kinetics with non-Fickian (anomalous) diffusion. Results indicate that Etodolac-loaded pharmacosomal gel is a potential transdermal carrier system, possessing improved drug solubility, controlled delivery, and resultant improved therapeutic efficacy with decreased dosing interval and side effects.</p> |

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| <b>PROJECT BATCH NO</b> | <b>M2</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>PROJECT SUBJECT</b>  | Pharmaceutics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>PROJECT TEAM</b>     | Justeena Joy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>PROJECT TITLE</b>    | Formulation, Optimization And Evaluation Of Econazole Nitrate Nanofiber Loaded Buccal Patch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>PROJECT GUIDE</b>    | Prof. Dr. Arun Raj R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>ABSTRACT</b>         | <p>Econazole nitrate nanofiber formulation were prepared by electrospinning techniques, which provides high surface area, porosity, and rapid dissolution properties. The concentration of polyvinyl alcohol and flow rate were changed to select the fibrous sample of optimum fiber characteristics. A 2 factor 3 level (32) Face centred Central composite design was chosen for the optimization of the prepared Econazole nitrate nanofiber. The optimized nanofibers were characterized using scanning electron microscopy (SEM), Fourier transform infrared (FT-IR) spectroscopy, surface pH, drug release and entrapment efficiency. The optimized formulation's entrapment efficiency and percentage invitro release were, respectively, 86.01% and 76.07%. The optimized nanofiber were further integrated into bioadhesive buccal patches to ensure prolonged residence time at the site of infection and controlled drug release. The prepared optimized formulation was evaluated for morphology, fiber diameter, drug content, entrapment efficiency, swelling index,, in vitro drug release, Comparison studies confirmed that release of drug from nanofiber loaded buccal patch followed controlled release manner (69.4%) while plain buccal patch showed 86.9%. Overall, the developed Econazole nitrate nanofiber-loaded buccal patch demonstrated potential as an effective and targeted delivery system for the treatment of oral candidiasis.</p> |

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| <b>PROJECT BATCH NO</b> | <b>M3</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>PROJECT SUBJECT</b>  | Pharmaceutics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>PROJECT TEAM</b>     | Sarath S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>PROJECT TITLE</b>    | Formulation And Evaluation Of Cubosomal Film Forming Gel Of Baclofen                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>PROJECT GUIDE</b>    | Mrs. Neema George                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>ABSTRACT</b>         | <p>The objective of this study was to formulate and evaluate cubosome based film forming gel of Baclofen. Nine formulations of Baclofen cubosomes were prepared by Top-down approach using GMO (Glyceryl monooleate) in different concentrations as lipid phase vehicle and different sonication times. Poloxamer 188 used as stabilizer, distilled water was used as aqueous phase. Optimization was done using Response surface Central composite design using Stat Ease software. Optimized batch of formulation was characterized by entrapment efficiency, in-vitro diffusion study, particle size, poly dispersibility index, and zeta potential. Optimized batch of cubosomal dispersion showed good entrapment efficiency of 66.72% with maximum drug release of 59.25%, with efficient particle size of 263.13 nm and zetapotential of -39.73mV. Further, by dispersing optimized cubosomes in film forming gel system, Baclofen cubosomal gels were prepared and evaluated for physical appearance, pH, drug content determination, drying time, invitro diffusion study, viscosity study, extrudability, integrity of the formulation, Spreadability, properties of the film. The kinetic data analysis of formulation indicated that fits to Korsmeyer- Peppas model and Higuchi model. The mechanism of drug release from the film forming gel followed anomalous (non- fickian) transport. The overall drug release from the film forming is diffusion controlled with contribution from polymer relaxation. These findings suggest that the cubosomal film forming gel of Baclofen is the best formulation for treating muscular spasm because of its increased drug release and diffusion rate.</p> |

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| <b>PROJECT BATCH NO</b> | <b>M4</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>PROJECT SUBJECT</b>  | Pharmaceutics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>PROJECT TEAM</b>     | Sandra Maria Santhosh                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>PROJECT TITLE</b>    | Formulation, Optimization And Evaluation Of Ofloxacin Loaded Niosomal Insitu Gel For Ocular Delivery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>PROJECT GUIDE</b>    | Prof. Dr. Arun Raj R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>ABSTRACT</b>         | <p>The objective of this study was to formulate an ofloxacin-loaded niosome In situ gel. Nine formulations of ofloxacin-loaded niosome were prepared by the ether injection method using cholesterol and span 60 in different concentrations, phosphate buffer 7.4 was used as aqueous phase. Optimization was done using Response surface Central composite design using Stat Ease software. An optimized batch of formulation was characterized by entrapment efficiency, in-vitro diffusion study, particle size, polydispersity index, and zeta potential. Optimized batch of niosome showed good entrapment efficiency of 80.10% maximum drug release of 80.64%, with efficient particle size of 279.43nm and zetapotential of - 62.8mV. Further, by using optimized ofloxacin-loaded niosome to prepare In situ gel. Evaluated the clarity, appearance, drug content, In vitro diffusion study, viscosity study, gelling capacity, and anti-microbial study. The kinetic data analysis of the formulation indicated that it fits the Korsmeyer- Peppas model and follows zero order release kinetics. The mechanism of drug release from the Insitu gel followed anomalous (non-Fickian) transport. These findings suggest that the ofloxacin-loaded niosome In situ gel is the best formulation for treating ocular infection because of its increased stability and regulated drug release.</p> |

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| <b>PROJECT BATCH NO</b> | <b>M5</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>PROJECT SUBJECT</b>  | Pharmaceutics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>PROJECT TEAM</b>     | Nijila Mary Reji                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>PROJECT TITLE</b>    | Formulation, Optimization And Evaluation Of Tinidazole Loaded Nanosponges Based Hydrogel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>PROJECT GUIDE</b>    | Prof. Dr. Arun Raj R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>ABSTRACT</b>         | <p>Tinidazole is an antiprotozoal and antibacterial agent, particularly effective against infections caused by anaerobic organisms. However, systemic administration can lead to unwanted side effects and may require multiple dosing. Nanosponges (NSs), with their porous architecture, can encapsulate drugs to improve solubility, stability, and provide sustained release. Incorporating tinidazole-loaded nanosponges into a hydrogel base offers a promising topical delivery system. The hydrogel formulation further enhances ease of application, maintains prolonged contact with the skin, and supports extended drug release. Overall, this strategy aims to maximise therapeutic efficacy while minimising systemic side effects. The objective of the study was to formulate and evaluate tinidazole-loaded nanosponges based on a hydrogel, and the method employed to produce nanosponges is the emulsion solvent diffusion method. Nine formulations of Tinidazole loaded nanosponges were made by varying ethyl cellulose and DCM as using Design of Expert software version 13. The optimisation method used was response surface design, central composite design. The optimised batch of nanosponges was evaluated on the basis of entrapment efficiency, in-vitro drug release, particle size, polydispersity index, and zeta potential. Optimised batch of nanosponges showed entrapment efficiency of 76.93% and percentage in-vitro drug release 56.045% with efficient particle size of 504nm and zeta potential of -26.4 mV. Then the optimised nanosponges are dispersed into the Hydrogel. The Hydrogel is made by using Carbopol 934. Then the prepared hydrogel is evaluated for clarity, pH, spreadability, Viscosity, and in vitro diffusion study. The release kinetic mechanism followed here is the zero-order kinetics (anomalous non-Fickian) transport. Overall, the developed nanosponge-based hydrogel system offers a promising strategy for localised, sustained, and effective topical delivery of tinidazole, minimising systemic side effects while maximising therapeutic efficacy</p> |

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| <b>PROJECT BATCH NO</b> | <b>M6</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>PROJECT SUBJECT</b>  | Pharmaceutics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>PROJECT TEAM</b>     | Sneha Mohan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>PROJECT TITLE</b>    | Formulation, Optimization And Evaluation Of Sparfloxacin Loaded Nanofibrous Scaffold Using Polymer Blend For Wound Dressing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>PROJECT GUIDE</b>    | Mrs. Neema George                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>ABSTRACT</b>         | <p>The present work reports the successful design and evaluation of a medicated nanofibrous scaffold for the prolonged delivery of Sparfloxacin, a broad-spectrum antibiotic known for its wound-healing effectiveness. Compatibility between the drug and excipients was established through Fourier Transform Infrared (FTIR) spectroscopy, Differential Scanning Calorimetry (DSC), and X-Ray Diffraction (XRD) Analysis which confirmed the absence of significant interactions. The developed nanofibers displayed favorable physical and chemical characteristics such as smooth morphology, transparency, and flexibility. Particle size distribution assessed by Scanning Electron Microscopy (SEM) revealed uniform, defect-free fibers with high porosity, offering an ideal framework for drug loading and controlled release. Drug release investigations demonstrated a controlled and extended release behavior.</p> <p>Kinetic modeling using the Korsmeyer-Peppas equation indicated a Fickian diffusion mechanism (<math>n &lt; 0.45</math>), signifying that molecular diffusion through the hydrated polymer matrix was the dominant release pathway. X-ray Diffraction (XRD) studies showed a conversion of sparfloxacin from crystalline to amorphous form within the scaffold, which could enhance dissolution and bioavailability. The optimized formulation exhibited strong antibacterial activity against both <i>Staphylococcus aureus</i> and <i>Pseudomonas aeruginosa</i>, confirming its therapeutic promise.</p> <p>The scaffold also maintained stability under varying storage conditions, preserving its physical and functional properties. Overall, the Sparfloxacin-loaded PVA/chitosan nanofibrous scaffold provides a reliable platform for sustained drug release and functions as a biocompatible protective wound dressing, capable of promoting tissue regeneration and improving patient compliance by minimizing the frequency of application.</p> |

### ABSTRACTS OF B.PHARM

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| PROJECT BATCH NO  | B1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PROJECT SUBJECT : | Pharmaceutical Marketing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PROJECT TEAM :    | Shawn Abraham<br>Sonu Sajan Peter<br>Ahilamol T Markose<br>Ebin Raja                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| PROJECT TITLE :   | A Comparative Analysis Of Price Differences Between Jan Aushadhi Generic Medicines And Branded Alternatives In Kottayam Region                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| PROJECT GUIDE :   | Prof. Dr. Arun Raj R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| ABSTRACT :        | <p>The <b>Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP)</b> was introduced to provide affordable generic medicines and reduce healthcare costs in India. This study compared the prices of Jan Aushadhi medicines with branded medicines and assessed customer and retailer perceptions in Kottayam, Kerala.</p> <p>The results showed that Jan Aushadhi medicines were <b>54%–92% cheaper</b> than branded alternatives, with a statistically significant price difference. Customers generally considered them cost-effective and reliable, while retailers identified affordability as the main reason for purchase. However, challenges such as limited awareness and occasional stock shortages were reported.</p> <p>The study concludes that PMBJP plays a significant role in improving access to affordable healthcare and reducing medicine expenses. Greater public awareness, better supply management, and increased support from healthcare professionals could further improve the acceptance and use of Jan Aushadhi medicines. Additionally, a 2025 study confirmed that generic medicines provide quality and effectiveness comparable to branded medicines while costing much less.</p> |

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| <b>PROJECT BATCH NO</b>  | <b>B2</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>PROJECT SUBJECT :</b> | Cosmetic Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>PROJECT TEAM :</b>    | Alfiya.S<br>Anjana K S<br>Aparna Gandhi M B<br>Sandhra S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>PROJECT TITLE :</b>   | Formulation And Evaluation Of Face Serum Using Extracts Of<br>Butterfly Pea And Liquorice                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>PROJECT GUIDE :</b>   | Prof. Dr. Arun Raj R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>ABSTRACT :</b>        | <p>The present study focuses on the formulation and evaluation of a herbal face serum incorporating extracts of butterfly pea (<i>Clitoria ternatea</i> Linn.) and liquorice (<i>Glycyrrhiza glabra</i> Linn.), both known for their potent antioxidant, skin-brightening, and anti-inflammatory properties. With the increasing demand for natural and safe skincare products, these plant extracts were selected due to their bioactive constituents such as flavonoids, anthocyanins, and glycyrrhizin.</p> <p>The extracts were incorporated into a suitable serum base in varying concentrations to develop stable and effective formulations. The prepared serums were evaluated for physicochemical parameters including pH, viscosity, spreadability, homogeneity, and stability under different storage conditions. Additionally, antioxidant and antimicrobial activities were assessed to determine the functional efficacy of the formulation.</p> <p>The results indicated that the serum containing optimized concentrations of butterfly pea and liquorice extracts exhibited significant antioxidant activity, good stability, and desirable physicochemical properties. The formulation also showed promising skin-enhancing effects, suggesting its potential as a natural and effective topical preparation for improving skin tone, hydration, and protection against oxidative stress.</p> <p>This study supports the use of butterfly pea and liquorice extracts in cosmetic formulations and provides a foundation for further in vivo and clinical investigations.</p> |

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| <b>PROJECT BATCH NO</b>  | <b>B3</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>PROJECT SUBJECT :</b> | Cosmetic Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>PROJECT TEAM :</b>    | Afeena Abubakar<br>Ardhra Anil<br>Aleenamol P S<br>Gayathri J                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>PROJECT TITLE :</b>   | Formulation And Evaluation Of Anti-Acne Gel With Cyclea Peltata And Aloe Vera                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>PROJECT GUIDE :</b>   | Mr. Sudhir M R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>ABSTRACT :</b>        | <p>The present study focuses on formulation and evaluation of an anti-acne gel incorporating cyclea peltata root extract and aloe vera gel. The cyclea peltata root extract contains potent phytoconstituent which have anti acne property and aloe vera produce synergistic effect to the gel since it is a good moisturizing and soothing agent. Both extracts were incorporated into a gel base using standard formulation techniques. The prepared formulation is subjected to standard physiochemical evaluation including pH, viscosity, homogeneity, spreadability studies. The anti- microbial efficacy was assessed against Staphylococcus aureus. The result showed the gel exhibited significant antibacterial activity along with desirable phytochemical characteristics. The synergistic effect of Cyclea peltata and aloe vera contributes enhanced therapeutic potential, indicating that the gel is safe, effective and potent alternative for acne management .</p> |

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| <b>PROJECT BATCH NO</b>  | <b>B4</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>PROJECT SUBJECT :</b> | Cosmetic Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>PROJECT TEAM :</b>    | Liya Sam<br>Meera Saj<br>Surya Hari<br>Vishnupriya K Menon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>PROJECT TITLE :</b>   | Formulation & Evaluation Of Herbal Lipstick Using Dragon Fruit Extract                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>PROJECT GUIDE :</b>   | Mrs.Neema George                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>ABSTRACT :</b>        | <p>The present study focuses on the formulation and evaluation of a herbal lipstick using dragon fruit extract as the key natural colorant. Synthetic dyes in commercial lipsticks often cause lip darkening, allergies, and dryness. Dragon fruit contains natural betalain pigments, antioxidants, and vitamins that provide color while being safe for lip skin.</p> <p>Herbal lipstick was formulated by incorporating dragon fruit extract into a base of natural waxes, oils, and butters such as beeswax, coconut oil, and shea butter. Different concentrations of the extract were used to optimize color intensity and stability. The formulated lipsticks were evaluated for physicochemical parameters including pH, melting point, breaking point, spreadability, surface anomalies, skin irritation, and stability over 30 days. Results showed that the herbal lipstick with dragon fruit extract had good color payoff, smooth application, no skin irritation, and acceptable stability without synthetic preservatives. The natural pigments gave a pink-red hue that varied with concentration. The formulation demonstrated that dragon fruit extract can be an effective, safe, and eco-friendly alternative to artificial colorants in lipstick.</p> |

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| <b>PROJECT BATCH NO</b>  | <b>B5</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>PROJECT SUBJECT :</b> | Cosmetic Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>PROJECT TEAM :</b>    | Adithya P Kumar<br>Aksa Mariam Thomas<br>Alisha Kunjumon<br>Aswathy B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>PROJECT TITLE :</b>   | Formulation And Evaluation Of Microsponge Loaded<br>Facegel Of Mentha Piperita                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>PROJECT GUIDE :</b>   | Mrs Neema George                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>ABSTRACT :</b>        | <p>The objective of the present research was to prepare and characterize Microsponge face gel loaded with Mentha piperita extract using Quasi emulsion solvent diffusion method. This study describes the development of Mentha piperita extract loaded Microsponge into face gel. Mentha piperita has been found to be an antioxidant, antibacterial, anti-inflammatory and cooling properties, making it ideal for calming irritated skin. In this study main focus was on the calming and soothing properties of Mentha piperita extract for sensitive skin. The microsponge loaded face gel show enhanced extract stability and skin permeation, showing potential as smoothening, calming facial treatment for sensitive skin. This study shows improving stability, solubility, methodology, characterization and evaluation of Mentha piperita extract by microsponge face gel formulation. Face gel was prepared using Carbopol 940 as gelling agent and the prepared face gel was evaluated for pH, viscosity, spreadability, homogeneity.</p> |

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| <b>PROJECT BATCH NO</b>  | <b>B6</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>PROJECT SUBJECT :</b> | Cosmetic Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>PROJECT TEAM :</b>    | Adithya R<br>Anamika K<br>Athulya R<br>Hanna T N<br>Malavika Ajeesh                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>PROJECT TITLE :</b>   | Formulation And Evaluation Of Anti Acne Herbal Face Scrub Using Tamarind                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>PROJECT GUIDE :</b>   | Mr Anuroop U P                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>ABSTRACT :</b>        | <p>The project aims to formulate and evaluate an anti-acne face scrub using Tamarindus Indica (Tamarind) as the primary active ingredient because of its natural exfoliating, antimicrobial and antioxidant properties. The herbal face scrub was prepared using tamarind peel powder along with selected herbal ingredients such as orange peel and suitable excipients. The formulated scrub was evaluated for various physicochemical parameters including appearance, pH, viscosity, spreadability, washability, and foamability. The results indicated that the formulated herbal face scrub possessed acceptable physicochemical characteristics and good stability. The presence of tamarind contributed to gentle exfoliation and helped in reducing acne causing factors, while other herbals enhanced antimicrobial and soothing effects. The study concludes that the developed tamarind-based herbal face scrub was safe and effective, making it a promising natural cosmetic formulation for the management of acne and improvement of skin health.</p> |

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| <b>PROJECT BATCH NO</b>  | <b>B7</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>PROJECT SUBJECT :</b> | Quality Control And Standardization Of Herbals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>PROJECT TEAM :</b>    | Adithya Biju<br>Akshaya S<br>Athiramol M.B<br>Devika Rajesh                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>PROJECT TITLE :</b>   | Formulation And Evaluation Of Polyherbal Cough Syrup                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>PROJECT GUIDE :</b>   | Mr. Nikhil P. S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>ABSTRACT :</b>        | <p>The present study was aimed at the formulation and evaluation of a polyherbal cough syrup containing Vasaka, Liquorice, Ginger, and Tulsi. These herbs are traditionally used for the management of cough due to their expectorant, bronchodilator, anti-inflammatory, and antimicrobial properties. The syrup was prepared using suitable excipients and evaluated for physicochemical parameters such as organoleptic properties, pH, viscosity, solubility, specific gravity, and stability. The formulation showed satisfactory characteristics and good short-term stability. Hence, the prepared polyherbal cough syrup may be considered a promising herbal formulation for cough.</p> |

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| <b>PROJECT BATCH NO</b>  | <b>B8</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>PROJECT SUBJECT :</b> | Quality Control And Standardization Of Herbals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>PROJECT TEAM :</b>    | Ajina Sudheer<br>Ammalu Saneesh<br>Jessa Jaimon<br>Nandana .S<br>Tony Kuncharia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>PROJECT TITLE :</b>   | Formulation And Evaluation Of Polyherbal Shampoo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>PROJECT GUIDE :</b>   | Mr. Nikhil P. S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>ABSTRACT :</b>        | <p>Polyherbal shampoos have gained increasing attention as natural and holistic alternatives to conventional shampoos that often contain synthetic chemicals. The present polyherbal shampoo formulation combines multiple herbal extracts and natural ingredients to promote overall hair health and hygiene. The formulation consists of Aloe vera (<i>Aloe barbadensis</i>), Neem (<i>Azadirachta indica</i>), Fenugreek (<i>Trigonella foenum-graecum</i>), Hibiscus (<i>Hibiscus rosa-sinensis</i>), Shikakai (<i>Acacia concinna</i>), and Ginger (<i>Zingiber zerumbet</i>). These herbal ingredients are traditionally recognized for their beneficial effects on hair and scalp care, including cleansing, nourishing, conditioning, and antimicrobial properties. The synergistic action of these plant-based components helps in the effective removal of dirt and excess oil, while improving hair texture, smoothness, and shine. Furthermore, the formulation supports scalp health and contributes to stronger, healthier, and more lustrous hair. Thus, the developed polyherbal shampoo offers a safe, eco-friendly, and effective natural hair care solution.</p> |

## KEY TAKEAWAYS & LEARNING OUTCOMES

1. **Research Mindset:** Students learn how to search scientific papers, solve practical lab problems, and analyze experimental data.
2. **Career Boost:** The practical experience opens up direct job opportunities in pharma R&D/QC departments and builds a strong base for higher studies.
3. **Hands-on Lab Skills:** Students master advanced laboratory equipment and learn how to formulate and test actual medicines.
4. **Professional Writing:** Students gain the essential skill of writing formal scientific reports, synopses, and project theses.
5. **Confidence & Presentation:** Students build communication skills and confidence by presenting their research work during the final viva exam.



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