

**Mandsaur Institute of Ayurveda Education &
Research, Mandsaur (M.P.)
Educational Tour Report – Jhansi, U.P.**
(Batch 2023-2024)

Introduction

An educational tour was organized by Mandsaur institute of ayurveda education and research for 2nd Prof students of batch 2023-2024 to Jhansi, Uttar Pradesh, from 25/02/2026 to 02/03/2026 to provide practical exposure to Ayurvedic pharmaceutical manufacturing, research methodologies, herbal drug identification and industrial quality control systems. The journey commenced on 25th February, and we reached Jhansi on 26th February 2026.

The tour was designed to bridge the gap between theoretical classroom learning and real-time industrial and research practices. During this visit, students had the opportunity to explore prestigious institutions including the **Central Ayurveda Research Institute, Baidyanath Ayurved Bhawan, and Tropolite Foods Pvt. Ltd.**

The exposure helped students understand large-scale Ayurvedic medicine preparation, research validation, quality assurance systems, and industrial hygiene standards.

Objectives of the Tour

- To understand industrial manufacturing of Ayurvedic medicines
- To observe research activities in Ayurvedic institutions
- To learn about quality control, sanitation, and packaging systems
- To gain practical exposure beyond classroom learning
- To study GMP and WHO-GMP certified pharmaceutical operations
- To understand standardization, identification, and authentication of raw materials

Tour Details

Detail	Information
Destination	Jhansi, Uttar Pradesh
Course	BAMS
Students	38 Students
Faculty	3 Teachers
Duration	4 Days

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Day1: Visit to CARI (Central ayurveda research institute) Jhansi

Objectives-

- Herbal research laboratories
- Drug testing procedures
- Research documentation
- Clinical research facilities

Learnings-

On Day 1, students visited the **Central Ayurveda Research Institute (CARI), Jhansi**, a premier institute dedicated to research and development in Ayurveda.

The visit began with a detailed introductory session where the official provided insights into the institute's establishment, objectives, and the various research projects currently being undertaken. Students informed that the institute houses a GMP-certified pharmacy and is also in the process of developing a *Kaushal Kendra* to enhance skill-based training in Ayurvedic pharmaceutical sciences.

Students were then taken for a guided tour of the GMP-certified pharmacy unit. The visit allowed them to systematically observe the entire workflow of a GMP-certified Ayurvedic pharmaceutical unit, beginning from:

- Raw material procurement section
- Washing and cleaning area
- Processing and manufacturing units
- Finished goods section
- Packaging and labelling section

The structured workflow demonstrated how contamination-free production is ensured through controlled movement of raw materials and personnel.

Students observed several classical pharmaceutical procedures including:

- Putra system used for preparing Bhasma
- Various classical Tantras involved in Ayurvedic drug preparation
- Modified and mechanized versions of traditional Rasashastra instruments

The pharmacy included different types of furnaces such as:

- Horizontal furnace
- Vertical furnace
- Middle furnace

The staff elaborated on how furnaces are used for mineral and metallic preparations according to classical Ayurvedic references while maintaining modern safety and quality standards.

A major highlight was the **Raw Material Inventory Section**, where approximately 500 standardized plant and herbal samples were systematically displayed. Each sample was properly labelled with botanical name, collection source, and standardization details. This exposure greatly strengthened our practical understanding of pharmacognosy.

Students also visited the centralized herbarium section, where they were taught how herbarium sheets are prepared, preserved, and catalogued for long-term academic and research use. The preservation techniques and documentation processes were explained in detail.

Further, we visited:

- Quality Control (QC) Laboratory
- Pharmacological Laboratory
- Pharmacognosy Laboratory
- Chemistry Laboratory

In these laboratories, they observed testing procedures ranging from basic quality assessments such as:

- Microbial load testing
- Contamination analysis
- Ash values
- Extractive values

to advanced instrumental analysis using high-end equipment such as:

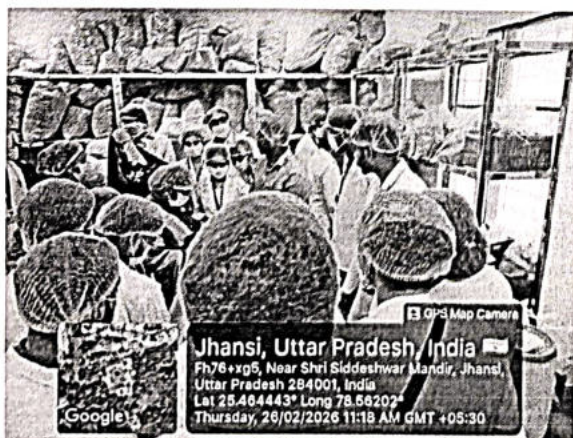
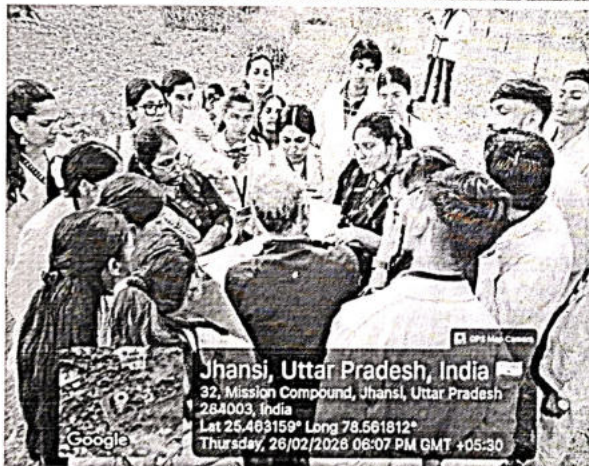
- GC-MS
- HPTLC
- ICP-OES
- HPLC

The instruments were modern and well-maintained, demonstrating how classical formulations are validated through advanced scientific tools.

Students also explored the herbal garden, which consisted of more than 300 medicinal plants. They had the opportunity to observe several rare flora and fauna not commonly found in the Mandsaur region. Dr. Sanjay Lale Sir explained simple and practical methods of plant identification and emphasized the importance of authentication and standardization in Ayurvedic drug preparation.

This visit significantly enhanced their understanding of scientific validation, research integration, and quality assurance in Ayurveda.

Geotag photos



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Day 2 : Visit to Baidyanath Pharmacy

On Day 2 of the educational tour, students visited the manufacturing unit of **Baidyanath Ayurved Bhawan**, one of the leading Ayurvedic pharmaceutical companies in India and a WHO-GMP certified organization. The visit provided comprehensive insight into large-scale industrial production of Ayurvedic medicines while strictly adhering to classical principles and international quality standards.

The introductory session at the facility helped them understand the distinction between a GMP-certified and a WHO-GMP certified pharmaceutical unit. The WHO-GMP certification reflects compliance with more stringent international standards related to documentation, hygiene protocols, validation processes, quality assurance systems, and contamination control. This comparison allowed them to appreciate the elevated operational benchmarks maintained at the facility.

Raw Material Section and Quality Control

The visit began with the raw material storage and inspection section. Here, medicinal herbs and other ingredients were systematically stored with proper labelling that included batch numbers, source of procurement, date of receipt, and inspection status. The staff explained the importance of authentication and traceability in pharmaceutical production.

A dedicated quarantine area was maintained for newly received raw materials. These materials were kept separately until approved by the Quality Control (QC) department after undergoing necessary testing procedures. Only after verification were the materials transferred to the production units, ensuring strict quality compliance.

Students observed how raw herbal materials undergo careful selection, cleaning, drying, and inspection to maintain purity and prevent contamination. This stage highlighted the importance of maintaining both classical authenticity and modern quality standards.

Production Divisions and Manufacturing Units

The entire manufacturing system was divided into three major sections:

- Herbal Section
- Herbo-mineral Section
- Metallic Section

This segregation ensured safety, purity, and controlled handling of different categories of formulations.

Each major section had dedicated sub-units for various dosage forms, including:

- **Churna (Powder Processing Unit)** – where herbs were pulverized into fine powder using mechanized equipment.
- **Tablet Manufacturing Unit** – where tablets were prepared using modern compression machines under hygienic conditions.
- **Pill Making Unit** – for preparation of classical Vati formulations.
- **Capsule Filling Unit** – where powdered formulations were filled into capsules with precision.
- **Syrup and Liquid Preparation Unit** – for preparation of liquid formulations under controlled conditions.

The powdering unit particularly demonstrated how herbs are cleaned, dried, and finely pulverized using advanced machinery while maintaining sanitation and minimizing human interference.

Separate controlled sections were maintained for handling precious and sensitive formulations such as **Swarna Bhasma** and **Rajat Bhasma**, ensuring maximum safety, purity, and adherence to regulatory standards.

Asava–Arishta Preparation Unit

A major highlight of the visit was the Asava–Arishta preparation section, where classical fermented formulations were being manufactured on a large industrial scale. The staff explained in detail:

- The method of large-scale preparation
- Maintenance of controlled fermentation conditions
- Regulation of temperature and hygiene
- Monitoring duration of fermentation
- Testing procedures to confirm proper fermentation
- Ensuring alignment of the final product with classical textual references

We learned how traditional fermentation principles are maintained while using modern monitoring systems to ensure consistency, safety, and efficacy.

Hygiene, Contamination Control, and Infrastructure

One of the most impressive aspects of the facility was its strict contamination control measures. The entry points for raw materials and personnel were completely separate to prevent cross-contamination. Workers followed hygiene protocols, wore protective gear, and adhered to standardized operating procedures (SOPs).

Each section was well-organized, ventilated, and maintained under controlled environmental conditions. Special emphasis was placed on sanitation and cleanliness throughout the

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manufacturing areas.

Packaging Department

WStudents also visited the packaging department, where they observed different stages of packaging:

- **Primary Packaging** – Direct containers such as bottles and blister packs
- **Secondary Packaging** – Cartons or outer packaging
- **Tertiary Packaging** – Bulk transport packaging for distribution

The labelling process included accurate batch numbers, manufacturing and expiry dates, and regulatory information. The systematic batch documentation and traceability mechanisms demonstrated high standards of pharmaceutical compliance.

Overall Learning Experience

This visit provided us with a deep and practical understanding of how traditional Ayurvedic formulations are manufactured on an industrial scale while maintaining classical authenticity, modern pharmaceutical standards, and global regulatory compliance.

It strengthened our knowledge of quality management systems, contamination control, documentation practices, and the integration of ancient Ayurvedic wisdom with contemporary industrial processes.

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Day 3: Visit to Tropolite Factory

On Day 3 of our educational tour, students visited **Tropolite Foods Pvt. Ltd., Gwalior**, a well-established B2B food manufacturing company primarily engaged in the dairy cream and cheese processing industry. This visit provided valuable exposure to large-scale industrial food production systems, automation technologies, and modern quality assurance practices.

Introduction and Orientation

At the beginning of the visit, the company officials conducted an introductory briefing session. During this session, students were informed about the history of the organization, its operational structure, production capacity, product range, and its role in the dairy-based B2B sector. The officials explained the complete production workflow and emphasized the company's commitment to quality, hygiene, and innovation.

Following the briefing, students were taken on a guided tour of the manufacturing plant to observe the functioning of various production units.

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Hygiene and Safety Protocols

Before entering the manufacturing areas, strict hygiene and safety protocols were enforced for all students and faculty members. Hand sanitization was mandatory prior to entering different production sections. The staff explained that maintaining hygiene is crucial in food processing industries, especially when handling milk and dairy-based products, which are highly susceptible to contamination.

They were also briefed about essential safety guidelines to be followed inside the premises. Workers were observed wearing protective equipment such as gloves, caps, masks, and safety uniforms. These measures reflected the company's strict adherence to contamination control and food safety standards.

This experience helped students understand the importance of discipline, sanitation, and compliance with industrial safety norms in large-scale food manufacturing environments.

Production Units and Automation

The facility demonstrated highly automated machinery with minimal human intervention, thereby reducing the risk of contamination and ensuring uniform product quality. We observed:

- Dairy cream processing units
- Cheese production and handling sections
- Automated packaging systems
- Quality Assurance laboratories
- Research and Development (R&D) unit
- Probiotic production and research unit

The automation systems used in the plant ensured precision in processing, controlled temperature maintenance, and standardized packaging operations. The staff explained how automation enhances productivity while maintaining hygiene and consistency.

A notable aspect of the facility was its dedicated probiotic research unit. The company is actively engaged in research related to probiotics and dairy-based food innovation. This demonstrated the integration of industrial production with scientific research and product development.

Quality Control and Assurance Systems

A major focus of the visit was understanding the quality control system followed by the industry. The staff explained that quality checks are conducted at multiple critical stages to ensure that products meet safety and regulatory standards before reaching clients.

The three major stages of quality control include:

1. **Raw Material Inspection** – Verification and testing of incoming milk and other ingredients to ensure purity and compliance with quality standards.
2. **In-Process Quality Monitoring** – Continuous supervision during manufacturing to

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maintain controlled conditions such as temperature, consistency, and hygiene.

3. **Finished Goods Testing** – Final product analysis before packaging and distribution to ensure safety, quality, and compliance with industry norms.

The Quality Assurance laboratory played a crucial role in monitoring microbial safety, compositional standards, and overall product stability. The strict quality management system ensured that products were manufactured in a clean, controlled, and standardized environment.

Educational Significance

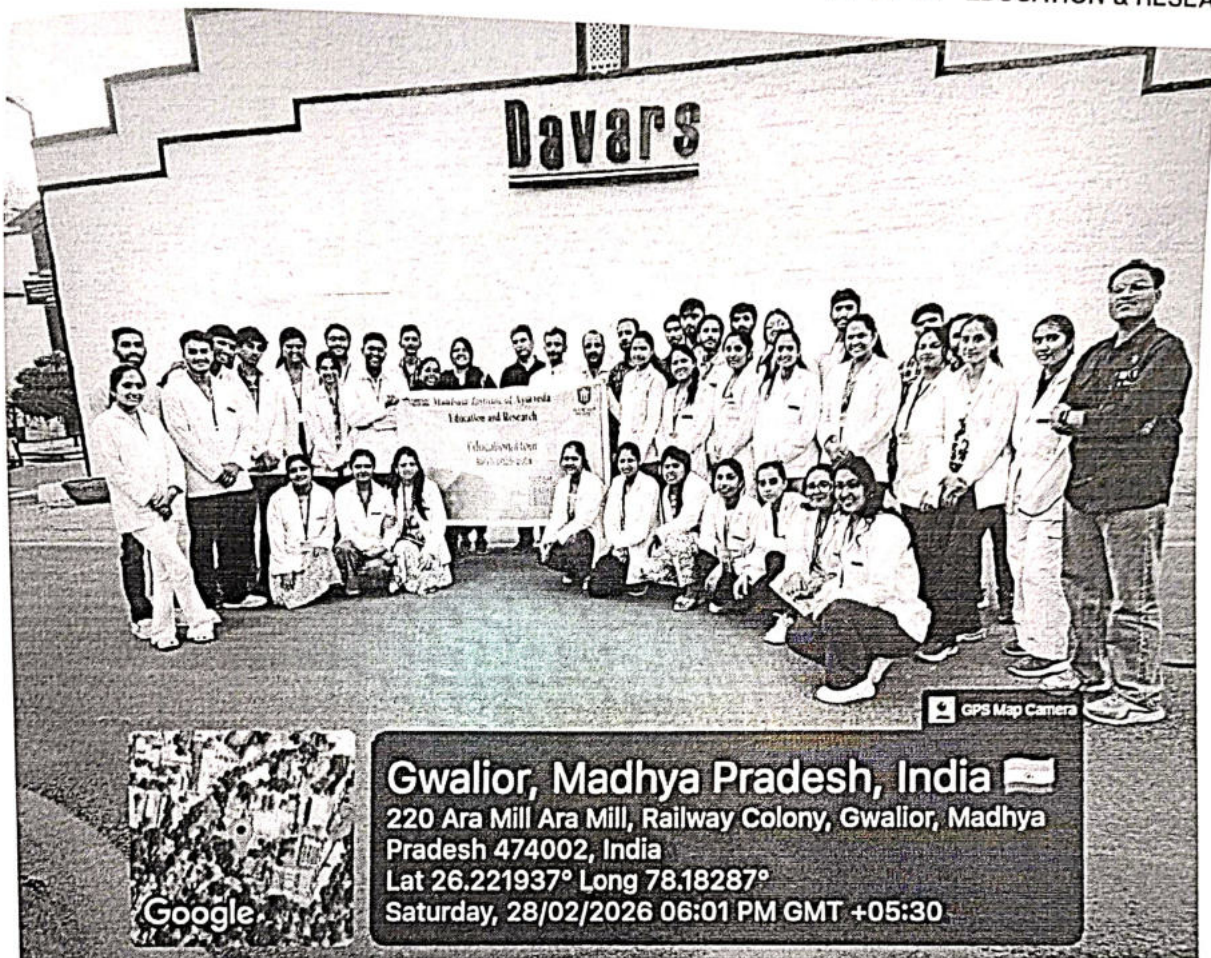
This visit provided students with comprehensive exposure to industrial food manufacturing practices, large-scale automation systems, contamination control mechanisms, and structured quality assurance protocols. It broadened our understanding of how industrial food processing units operate efficiently while maintaining strict regulatory compliance.

The experience highlighted the importance of organization, teamwork, scientific validation, and quality management in modern manufacturing industries. It also demonstrated how industries ensure product safety, hygiene, and innovation through systematic planning and technological advancement.

Overall, the visit to Tropilite Foods Pvt. Ltd. was highly informative and enriched our understanding of industrial operations beyond the pharmaceutical domain, offering a broader perspective on manufacturing excellence and quality assurance systems.

Geotag photos





Learning Outcomes

From this educational tour, students gained several valuable insights:

- Understanding of large-scale Ayurvedic medicine manufacturing
- Knowledge of research methods used in Ayurveda
- Awareness of quality control and safety standards
- Exposure to industrial working environments
- Practical connection between theoretical knowledge and real-world application

Conclusion

The educational tour to Jhansi was an extremely informative and enriching experience for all students. The visit significantly enhanced our understanding of pharmaceutical manufacturing,

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research methodologies, quality control systems, and industrial management practices within both Ayurvedic and food-processing sectors.

By visiting institutions such as the Central Ayurveda Research Institute (CARI), Baidyanath Ayurved Bhawan, and Tropolite Foods Pvt. Ltd., we gained comprehensive exposure to research validation techniques, large-scale drug manufacturing processes, WHO-GMP compliance systems, and modern industrial automation practices. Students were able to observe raw material identification, authentication and standardization procedures, pharmaceutical processing techniques, large-scale Asava-Arishta fermentation, advanced instrumental analysis, and structured quality assurance protocols.

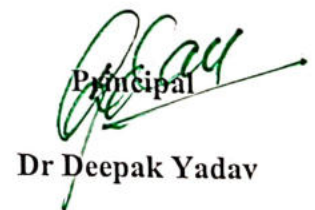
The opportunity to explore diverse medicinal plants, herbarium preservation techniques, and unfamiliar flora and fauna further deepened our understanding of the natural resources used in Ayurveda. Additionally, the visit to the Tropolite unit broadened our perspective on industrial food manufacturing, dairy processing, contamination control, and multi-stage quality monitoring systems.

Overall, the tour successfully bridged the gap between theoretical academic learning and practical implementation. It strengthened our appreciation for the scientific and practical foundations of Ayurvedic medicine while reinforcing our understanding of research validation, pharmaceutical production, and industrial operations. This valuable exposure has significantly contributed to our academic growth and will greatly benefit us in our future medical and professional careers.



Academic head

Dr Sushant Maksane



Principal

Dr Deepak Yadav