

PROGRESS REPORT

Shikshaka Prashikshana Kendram, Aryabhata College, University of Delhi

Indian Knowledge Systems Center

Ministry of Education, Govt. of India

For

ANCIENT INDIAN MATHEMATICS (2023-2024)

Principal Investigator: Dr. Priti Jagwani

Co-Principal Investigator: Dr. Krishna Murari and Dr. Varsha Singh

Aryabhata College, University of Delhi has been granted IKS Centre for Indian Astronomy and Ancient Indian Mathematics for two years 2023-2025. **During the year 2023-2024, Centre focused on Ancient Indian Mathematics.** The study of Indian Mathematics offers a profound understanding of how mathematics is deeply embedded in Indian culture, influencing art, architecture, music, and religious practices. This exploration not only enriches students' appreciation of Indian culture but also reveals efficient methods of problem-solving that were developed within the Indian mathematical tradition.

TASKS AT HAND

Considering the importance of the subject matter, the following tasks were to be completed for the year 2023-2024:

- To bring together, connect and network with the experts in the field for authentic syllabus formation and structure of Ancient Indian Mathematics course.
- To record video lectures of the experts on the syllabus curated, transcribe them and prepare questions for each lecture.
- To conduct a faculty development programme with experts from the field on Ancient Indian Mathematics for training teaching to teach the course effectively

QUATERLY PROGRESS

September – November 2023: During this quarter, substantial progress was made in the development of a comprehensive 4-credit course on Ancient Indian Mathematics. Multiple consultations were conducted with a panel of distinguished experts to ensure the course's academic rigor and relevance. The experts involved in this process included Dr. Anand Burdhan, Dr. Venkateswara Pai, Prof. S.A. Katre, Prof. Pragati Gautam, Dr. Priti Jagwani, and

Prof. Nidhi Handa. These professionals provided critical insights and feedback, leading to the successful structuring and refinement of the course syllabus. The finalized syllabus for the course is attached to this report for reference.

December 2023 – February 2024: This period was marked by the production and preparation of educational materials. Expert lecturers recorded sessions on various topics outlined in the course syllabus at the center. These recordings were subsequently edited and formatted to ensure high-quality educational content. In addition to these activities, the center expanded its team by recruiting one Research Associate and two interns, who were instrumental in supporting the project's development and execution during this quarter.

February – April 2024: The focus of this quarter was on the transcription of the recorded video lectures. Efforts were directed towards converting these recordings into written transcripts, which serve as essential resources for course participants. Concurrently, the development of supplementary course materials, including detailed lecture notes and self-assessment questions for each topic, was undertaken. This period also marked the commencement of strategic planning for the upcoming Faculty Development Programme (FDP), laying the groundwork for its successful implementation.

May – July 2024: During this quarter, significant efforts were invested in the planning, organization, and execution of the Faculty Development Programme (FDP). The FDP was scheduled and conducted from July 1 to July 6, 2024. This programme saw the active participation of over 40 attendees and featured the involvement of 8 esteemed experts, who delivered more than 12 engaging lecture sessions. The FDP was well-received and deemed a success, reflecting the thorough preparation and collaboration involved. A detailed report of the FDP, encompassing participant feedback, session summaries, and outcomes, is attached to this report for further review.

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