

# INDIAN KNOWLEDGE SYSTEM

## WORK PLAN

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### Background

By doing this project we will be collecting some of the important information regarding the vedic period of mathematics, and also discover and try to find out ways how the ancient Mathematics was a boon in today's world. We will find out the connections of the Vedic Period of Mathematics with the Advanced Astronomy of today.

- 1) As we know that the equipment used in the ancient era were a precious part of the Indian Astronomy and Mathematics.
- 2) So, we will be doing an on ground extensive research for the fabrication of these equipment so that it can reach all the schools and colleges for naked eye astronomical observations.
- 3) This project will carve the effectiveness of the Pathani Samantha's equipment like, Dhanuryantra, Shanku and Sundial, Chapa Yantra, Gola Yantra, Mana Yantra that were lost in the Modern history period of The British India.
- 4) So, on a long run this project will yield a lot of data regarding the importance of ancient mathematics, how to preserve and educate the modern generation about the same. With this project we will also be able to show India's contribution towards some of the developed countries and our planet, which would make India a super power, among all the other nations.

### Objectives

Below are the objectives,

- 1) Low cost Fabrication of Siddhantic astronomical instruments made by Pathani Samanta like the Mana Yantra (to calculate the approx height of any distant object like mountains), or the Dhanur Yantra. And answer certain questions like,
  - a. measure the separations between the stars in Ursa-Major and that of a-Ursa Majoris from the Pole star. Check them with standard data.
  - b. Measure the angular distance of Betelgeuse (Ardra) and Rigel (Bana Raja) from the middle star in Orion's belt.
  - c. Using a gnomon, find the declination of sun on any day using local value of latitude. (Refer a standard geographical atlas)
- 2) Create and maintain a database to store the information of the ancient equipments used for star gazing and Astronomical data, exploring the universe from being in Earth with naked eyes.
- 3) Collect and co-relate the data and theory about the celestial objects, the importance of Constellations on the physical world. Some conspiracy theories talk about the placement of certain temples are based on the constellations' positions at a certain time, so we will explore on those facts as well.

### Description of the Project

The Sutra genre. Mathematical activity in ancient India began as a part of a "methodological reflexion" on the sacred Vedas, which took the form of works called Vedāṅgas, or, "Ancillaries of the Veda" (7th–4th century BCE). To start with the project, first would be to create a complete structure and a schedule for the week. After this, we would start with jotting down all the important places where we can find evidences regarding the project, that is **research on the Ancient Astronomical Equipment made by Pathani Samanta for Astronomical Observations with naked eyes**, one such place here is the Pathani

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Samanta Planetarium, we would extend our research in those places. With each strategic step we will try to **formulate and create questions and contradictions for the specimens or those ancient equipment**. Then with the help of Effective Google Searching techniques and evidences found during exploration process, we will delve deeper into finding the solutions for all those questions and contradictions raised during the process. While this process continues, we will keep a track of the data collected during the searches, and we will preserve them in a database. Once all the data of equipment will be collected, we will start the process of analyzing them, and create a meaningful overview. These overviews will also be documented and preserved. With the help of those overviews, we will derive our outcomes for the fabrication of those equipment. We will follow a profound chain of process and act strictly towards the same. We will then use all our observations and those equipment to populate in Schools and Colleges for the Astronomical Activities. The research model will include checking the progress regularly and making required changes according to the forecasted goals. We will also be conducting team meetings with the members, the mentor, and certain experienced professors on this department for a better knowledge exchange and evident learning.

## Timelines

We will be creating a weekly Based Report of all the data gathering and maintain a database regularly. This is a timeline for each week.

Day 1: In house team research and strategizing in a scrum and documentation.

Day 2: Creation and collection of the required instruments for the project

Day 3: Exploring the Museums for collection of data, and documentation

Day 4: Profoundly maintaining the data in Excel sheet and checking of the progress

Day 5: Checking on progress and making changes according to the requirements for the forecasted Progress.

Day 6: A profound meeting and research tour with the entire team for Mathematics and Astronomy and the mentor for a better knowledge exchange.

## Outputs

By the end of this project, we will be,

- 1) Having a structured database of important concepts of the Vedic Period of Mathematics
- 2) Having pipeline that could connect the ancient theories to the modern Era.
- 3) Astronomical information, regarding the constellations and celestial objects and more clear views on the importance of Ancient Mathematics and Factual data on certain conspiracy theories.

## Scope for Future Work:

To bring out a manual in the local language (Odia) and make it available for the School and College Students.

## References:

- 1) Pathani Samanta's Instrument Kits (A Book by Dr. Prahallad Chandra Naik)
- 2) Wikipedia