



**ACHARYA'S NRV SCHOOL OF ARCHITECTURE**  
**SOLADEVANAHALLI, BENGALURU -560107**

**INDIAN ASTRONOMICAL OBSERVATORY**  
**ARCHITECTURE DESIGN PROJECT (THESIS) – 2022-23**

**Submitted in partial fulfillment of the Requirements for the**  
**“Bachelor of Architecture” Degree Course**

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A project report submitted to  
**VISVESWARAIAH TECHNOLOGICAL UNIVERSITY**

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**ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಬೆಳಗಾವಿ – ೫೯೦೦೧೮**



## **CERTIFICATE**

This is to certify that this thesis report titled '**INDIAN ASTRONOMICAL OBSERVATORY**' by Arvind Kumar TS of X SEMESTER B.Arch, USN No. 1AA18AT056, has been submitted in partial fulfillment of the requirements for the award of undergraduate degree **Bachelor of Architecture (B.Arch.)** by Visveswaraiah Technological University VTU, Belgaum during the year 2022- 23.

**Guides:** Prof. Sanjyot Shah  
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**Principal**

**Examined by :**

1) Internal Examiner :

2) External examiner 1 :

3) External examiner 2 :

## **DECLARATION**

This thesis titled “**INDIAN ASTRONOMICAL OBSERVATORY**”, submitted in partial fulfillment of the requirement for the award of the undergraduate Bachelor of Architecture is my original work to the best of my knowledge.

The sources for the various information and the data used have been duly acknowledged.

The work has not been submitted or provided to any other institution/ organization for any diploma/degree or any other purpose.

I take full responsibility for the content in this report and in the event of any conflict or dispute if any, hereby indemnify Acharya’s NRV School of Architecture and Visveswaraiah Technological University, Belagavi, and its official representatives against any damages that any raise thereof.

**(Signature)**

**Arvind Kumar TS**

**1AA18AT056**

To my mom and dad, for their love and good home,  
wise advice and contagious energy.

To my Teachers and Professors, who always have been my support  
and companion, steadily looking for new roads in life.

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## EXECUTIVE SUMMARY

**VISION-** The objective of this Bachelor's Degree thesis project was to Explore the design behind the construction of a Ground-based Astronomical Observatory (Industrial Design), and a supporting Base Camp with equipped Training Facility.

**PURPOSE-** The main aim of this project was to establish a conducive built environment that can facilitate public outreach, enhance awareness about space organizations, create a platform for interested individuals, scientists, and students to carry out research, and enable undergraduate and graduate students to undertake observational projects in astronomy and astrophysics, using large telescopes. In addition, the project also aims to promote community engagement in astronomy and astrophysics through the use of amateur telescopes.

### PROJECT-

Observatory Design

Base Camp Facilities

*Site Location-* Indian Astronomical Observatory (IA), Hanle, Ladakh

**OUTLINE-** By constructing an astronomical observatory and a supporting base camp in Hanle, Ladakh, this project aims to promote research, education, and public awareness in the field of astronomy and astrophysics. The project also seeks to provide a unique platform for students and researchers to carry out small observational projects and contribute to the advancement of scientific knowledge.

**KEY ISSUES-** However, the site complexity poses a significant challenge in the successful implementation of this project. Factors such as extreme weather conditions, high altitude, and lack of infrastructure and facilities could impact the project's construction and operation. Additionally, the remoteness of the site poses logistical challenges, such as transportation of equipment and materials, availability of skilled labor, and supply chain management.

Addressing these key issues will require careful planning, selection of appropriate construction materials, and the use of innovative construction techniques. The project will also need to develop a robust logistical and supply chain management plan to ensure timely delivery of equipment and materials.

Despite these challenges, the successful completion of this project has the potential to contribute significantly to the advancement of scientific knowledge and promote public awareness and education in the field of astronomy and astrophysics.

### SUMMARY/CONCLUSION-

“BRINGING SPACE DOWN TO EARTH FOR EVERYDAY PEOPLE”- *Tim Dodd AKA*

*Everyday Astronaut*