

# SCIENTIFIC AND CULTURAL HERITAGE OF INDIA

--Shri badapanda ji

India has been called by many names throughout the history India, Hindustan and Bharat being the most common. With Indian civilization dating back millions of years there have been accounts from all over the world about how Indian people have influenced their customs and norms. L A Wadel states that Indian Aryans have established Aryan culture throughout the globe from 1300 BCE to 2500 BCE. India's vast scientific and literature past can be understood from all the Vedas, Upvedas and Purans. Vedas are the vast store of invaluable knowledge and science, termed as Vedic-Science As for the cultural heritage, all the major religion were formed much after the sanatana dharma of India which was a way of life more then any religion centered around the almighty rather than a prophet. India during Pre-Christian era was a country of plentiful wealth and productivity and hence was looted may times by the European and the middle eastern rulers.

- **Astronomy and Geography:-**

India was the birth place of Astronomy and Astrology found in Rug-Bed written in 3<sup>rd</sup> century BCE, the concepts of planets, eclipses and continents were known to Vedic sages as it was also described in the Purans written 5000 years ago. Only 5 planets, Mercury, Venus, Mars, Jupiter, Saturn were known to west before 1781, before discovery of Uranus, Neptune and Pluto by Herschel, but Indians were aware of all the 9 planets from 5000 years. Exact duration of rotation of earth, accurate world maps, concepts of solar system and it's accurate model can be found in Vedic Purans written by the Vedic sages. The mention of other planets with life can also be found in the Vishnu Puran stating that Earth is one of planets in the cosmos having life on it.

- **Mathematics:-**

The world is indebted to ancient India for many mathematical knowledge. Addition, subtraction, division, multiplication were first invented in India. Brahma Gupta discovered Zero(0) in 619 CE. The value of pi was first calculated by Indian mathematician Bodhan to be as 3.14159. Various other theories of mathematics such as the theories if algebra and trigonometry, Differential calculus, nonlinear equations, Differentiation, how to solve infinite series and so much more were already invented in India before the world even knew anything about mathematics.

- **Physics:-**

Theory of relativity and atomic and molecular theory was written in 6th century BCE in Vedic science. The size of an atom, estimation of the speed of light , the rotation of earth, theory of gravity, all of these were known to ancient Indians, and are written inside different Vedas. Tele communication, remote sensing, radar, laser imaging technology was first invented in India.

- **Chemistry:-**

Nagarjun, an ancient Indian was the father of evaporation and condensation reactions. Gold, silver, tin, lead and iron were first invented in India. Indians were able to get pure metals from

their ores before any other country. India was the only country to use diamond till 1726. Various spices, sugars, perfumes, colors were first invented in India. Various ancient structures in India were made of alloys of iron which allowed them to survive the last 1500 years and they are still standing.

- **Metallurgy and production technology:-**

Vedic India was the hub for transporting perfumes, spices, colors and sugar to throughout the world. This manufacturing technology was very useful and popular for domestic purposes and for exporting purpose for building a great nation. Spinning, weaving and coloring were first invented in Vedic India and because of which India became the major party in the production and exportation of goods like cotton, silk and woolen clothes, wools and colored carpets, and especially the canvass to Rome. The Armory and machineries fire arms like guns, rockets, missiles and gun-powder were first invented in India.

- **Navigation:-**

Ship-building and navigation, was very much developed in Vedic India, as revealed from many ancient texts written in Sanskrit and Palee scripts, its proof is revealed from the sail-boat portrait of MahenjoDaro and seagoing ship portrait inscribed in the Ajanta caves. Because of this ship and navigation facility Vedic India was able to develop trade business with countries were we can only reach by crossing the oceans. Indian navigators also developed magnetic compass by using a magnet fish in it and Vedic Indians were the 1st to build sea-faring ships, by the available hardwoods, which were not available in European countries.

- **Medicine and surgery:-**

India was the first to devise the 1st exhaustive medical science Aurveda and Acupuncture, based exclusively on herbal medicines and also maharishi Charak and Patanjali as word's 1st doctors and Susruta the 1st surgeon. Many books were made for the future generations to learn about the medical since one of them was Charak Sanhita which was authored by Maharishi Charaka, which is used as text book for medicine for last 2000 years, which describes, human anatomy, cause, symptom, diagnosis and remedy of diseases, digestive system, immunity, metabolism, embryology, genetics etc. Indian sages were the first to be known to the concept of evolution even thousands years earlier than Darwin.

- **Engineering and Architecture:-**

A lot of temples were built by ancient Indians, which were huge and marvels of engineering. Ancient Indian sages has described irrigation engineering technology in minute details, along with ground water harvest. Buildings with planned water supply and a proper sewage disposal system were invented in Vedic India.

- **Space Engineering:-**

Airplane was first in Vedic India. It is written about aero dynamics in Vedic texts of India. Moreover, some models for aircrafts propelled by solar energy both for air, sea and land are given in these Vedic texts. The first aircraft were invented in India, and it flew up to 1500 feet. Britishers purchased this prototype, and with some few additions Wright brothers got all the credit. Ancient texts even describes the uses of satellite and space technology.

- **Sports And Games:-**

Martial arts, yoga, kabbadi, chess, etc. were originated in India and are our gift to the entire world. Cricket was first played in India, which britisher took a liking to and so it is now played in the whole world. Chess was invented in India under the name 'Shatranj'.

**Group members:-**

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2. **Satvik Watts (IIT2020029)**
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