

Achievements of Ancient India

Ancient India arose over seven thousand years ago in the Indian subcontinent in Asia. Indian society had a range of achievements in mathematics, science, urban life, technology, and literature. Basic principles of mathematics, including the number zero and the origins of algebra, began in India. People had indoor plumbing and flush toilets. Great literature written in Sanskrit explained the origins of existence. People and animals had the best medical care, including hospitals and prescriptions. Technology included processing sugar, refining iron, and dyeing cloth. They also invented an early form of chess.

Ancient India

Ancient India is one of the oldest civilizations. It began about seven thousand years ago around the Indus River. While we often focus on the accomplishments of Egypt, Mesopotamia, and Greece, the achievements of Ancient India are profound. As one summary noted:

So many of the foundations of modern society -- science, medicine, mathematics, metaphysics, religion and astronomy -- originated in India.

Let us check out some of the incredible accomplishments of Ancient India.

Mathematics

The number zero is a significant concept in mathematics. A mathematical treatise in Ancient India discusses the principle and use of zero. Indian mathematicians also used decimals.

We honor the Arabs for inventing "Arabic numbers" and algebra. They did help transmit such mathematical concepts to Western Europe. Nonetheless, Ancient Indians developed an early form of algebra and algorithms. Written numbers first arose in India.

Aryabhata was a fifth-century astronomer and mathematician. He accurately defined the terms of pi (π). He correctly formulated many astronomical calculations involving the sun and earth.

Medicine

Ayurveda is considered one of the oldest systems of medicine accepted worldwide.

Traditional remedies involve nutrition and herbal solutions to health problems. Indian physicians prescribed medicinal plants to heal illnesses. Surgery, including cesarean sections and removal of tumors, was available. Hospitals were available to treat patients.

Veterinary medicine also provided relief for animals. Many Indians were vegetarians. Animals were particularly precious. There was a special duty to care for them.

Physicians followed an ethical code, like the Hippocratic Oath, to serve their patients.

Patanjali, a Hindu sage, promoted yoga. People still perform yoga to promote health and spiritual well-being. Yoga and meditation had both religious and physical health aspects.

Urban Planning

Early Indian civilizations had large cities with many modern touches.

The major cities might have had as many as 35,000 people. They had well-planned streets and walls surrounding each neighborhood. The houses were made of mud bricks and had indoor bathrooms and garbage chutes on the outside. Granaries stored grain from farms.

Canals provided water for farming. Kallani Dam is one of the oldest in the world.

Indian architects used wood, brick, and stone in buildings featuring domes, columns, and conical towers. They added artistic touches with complex symbolism and designs.

Technology

Indians applied chemical principles to dye cloth, tan leather, manufacture soap and glass, and refine iron ore. Improvements to iron-making included means to resist corrosion. Arabs later adopted their process and spread it to Medieval Europe.

Aryans, a cattle-raising people, were excellent horsemen. They developed chariots and used them in warfare. Horses and chariot riding spread from Asia to other ancient societies.

They developed a process of producing crystallized sugar from sugarcane. China sent two missions to India to learn about sugar refining technology.

Writing and Literature

Ancient Indians developed the Sanskrit language.

It is the language used in their holy books. The Vedic Period of Indian history arises from *The Vedas* ("knowledge"), a large body of religious texts.

The texts spell out the principles of Hinduism ("Hindu" from "Indus"), the world's oldest religion. Its core involves obtaining happiness by living in harmony with the order of the universe. Hindu storytellers also delighted in using animal fables to illustrate morals.

Indian literature later included the writings of other religious faiths. Buddhism and Jainism also arose in India. They promote nonviolence and rules to avoid suffering.

People learned about the origins of existence and the meaning of life. People also built great monasteries and temples to practice these religions.

Education

Education was a fundamental part of the upbringing of higher-caste children. Teachers (gurus) taught boys in school. A good education was fundamental when choosing marriage partners.

Takshila (or Taxila) is one of the first universities in the world. Nalanda University was another major center of learning. Students learned both religious and secular subjects.

We saw how amusing fables taught morals. Games also were a means to expand the mind. Board games, including an early form of chess, were fun and mentally stimulating.

We continue to honor the memory of the achievements of Ancient India by learning about them.

QUESTIONS

- 1. How did the concept of zero, as developed in Ancient India, contribute to the field of mathematics?*
- 2. Describe the advancements in urban planning and architecture in early Indian civilizations. What modern features were included in their cities?*
- 3. In what ways did Ancient Indian society advance the fields of medicine and healthcare, including veterinary practices?*
- 4. How did the Ancient Indians apply chemical principles in technology, and what impact did these advancements have on other civilizations?*
- 5. Discuss the role and significance of the Sanskrit language in Ancient Indian literature and religious texts.*
- 6. What educational systems and institutions were established in Ancient India, and how did they contribute to the society's intellectual development?*
- 7. Explain the influence of Ancient India's achievements in areas like mathematics, science, and technology on modern society.*