

Due date: 13.10.2023

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Assignment 1

1. Write the oldest innovation/invention/technology in the field of engineering that you think most relevant to solve present modern world's. Also provide any traces of it in Indian knowledge tradition if you can find any. (max 200 words each)

ANS:

The invention of the wheel, approximately around 3500 BC in Mesopotamia, marked a pivotal moment in human history. It was a groundbreaking development that fundamentally altered the course of technological and engineering progress. The wheel's influence extends far beyond its initial applications, with profound implications for modern society.

1. Transportation Revolution: The wheel's introduction revolutionized transportation. Prior to its invention, people relied on sledges and rollers to move heavy objects, which was labor-intensive and inefficient. The wheel allowed the creation of carts and chariots, dramatically enhancing the efficiency of moving people and goods. This innovation opened up new possibilities for trade, communication, and the development of early urban centers.

2. Mechanical Advancements : The wheel played a critical role in the advancement of early machinery. Waterwheels, for instance, harnessed the power of flowing water to perform various tasks, such as grinding grain or pumping water. Millstones, powered by the wheel, enabled more efficient grain processing. These innovations laid the foundation for industrialization and, eventually, the Industrial Revolution, which transformed societies and economies.

3. Modern Relevance : In the contemporary world, the wheel remains omnipresent. It is the fundamental concept behind automobiles, bicycles, trains, and various other vehicles that underpin our global transportation networks. Furthermore, the wheel's principles are incorporated into countless industrial machines, from conveyor belts in manufacturing to the turbines in power generation. Its simplicity and efficiency continue to be central to engineering design.

Turning to Indian knowledge traditions, while there isn't a direct historical account of the wheel's invention, there are intriguing references that suggest an understanding of circular motion and related concepts:

- Rigveda : The Rigveda, one of the oldest sacred texts, composed around 1500 BC, contains the term "cakra." While its exact meaning is open to interpretation, it has been linked to the idea of a wheel or circle. This linguistic reference implies that ancient Indians had some awareness of circular objects and their significance.

- Sudarshana Chakra : In Hindu mythology, the "Sudarshana Chakra" is a divine weapon associated with Lord Vishnu. It takes the form of a spinning disc or wheel. While its primary purpose is spiritual and symbolic, the existence of such a concept suggests that ancient Indian thought had some grasp of circular motion, even if in a metaphysical context.

The enduring relevance of the wheel in our modern world is a testament to the enduring power of ancient engineering innovations to address contemporary challenges. It is a symbol of the timeless and universal nature of certain technological principles, and it continues to shape the way we move, produce, and live in the present day.

2. Describe subject matter (each in max. 100 words) of any two original books with details of their author and time written in ancient Indian languages – sanskrit/ Prakrit/ pali, etc. of following philosophies (any three):
 - a. Vedanta
 - b. Vaisheshik
 - c. Jain
 - d. Samkhya
 - e. Buddha

ANS:

1. Vedanta :

- Text: "Brahma Sutra" (also known as Vedanta Sutra)

- Author and Time: The "Brahma Sutra" is attributed to Sage Vyasa, a revered figure in Indian tradition who is traditionally believed to have lived during the 3rd millennium BCE. However, dating this text precisely is challenging, and there are differing opinions among scholars regarding its composition time.

- Subject Matter : The "Brahma Sutra" is a seminal work in the Vedanta tradition, which is a major school of Indian philosophy. It consists of a series of concise aphorisms that systematically explore the nature of the ultimate reality (Brahman) and the relationship between the individual soul (Atman) and Brahman. This text serves as a unifying and clarifying scripture, presenting a comprehensive and logical synthesis of the teachings found in the Upanishads. It emphasizes the concept of non-duality (Advaita), popularized by philosophers like Adi Shankaracharya. The "Brahma Sutra" is a cornerstone of Vedantic thought and has been the subject of extensive commentaries by scholars over the centuries.

2. Jain :

- Text : "Tattvartha Sutra" (also known as "Tattvarthadhigama Sutra")

- Author and Time : The "Tattvartha Sutra" is attributed to the Jain sage Umasvati, also known as Umaswami. He is believed to have lived between the 2nd and 5th centuries CE.

- **Subject Matter**: "Tattvartha Sutra" is a fundamental text in Jain philosophy, which is a distinct and influential philosophical tradition in India. This text is often referred to as the "Sutra on the Science of Reality." It provides a systematic and structured examination of key principles and doctrines of Jainism, a religion and philosophy that emphasizes non-violence (ahimsa), truth (satya), and non-possessiveness (aparigraha). The "Tattvartha Sutra" explores the nature of reality (tattvas), the concept of the soul (jiva), the operation of karma, and the path to spiritual liberation (moksha). It serves as a comprehensive guide for both laypersons and ascetics, presenting a logical framework for understanding and living the Jain way of life.

Both of these texts are not only significant within their respective philosophical traditions but also provide valuable insights into the broader Indian philosophical landscape, addressing fundamental questions about the nature of existence, consciousness, and the path to spiritual realization.

3. Which Indian philosophical systems, you find best close to your belief about life practices and goals? Explain. (max. 250 words)

ANS:

As a Jain, my beliefs closely align with the principles of Jain philosophy. Jainism resonates with me because it embodies the ideals of non-violence (ahimsa), truth (satya), non-possessiveness (aparigraha), and self-discipline. These principles are at the core of Jainism and guide my approach to life practices and goals.

The Jain path emphasizes compassion and harmlessness towards all living beings, which I find deeply meaningful and relevant in our interconnected world. It promotes the pursuit of spiritual

knowledge, self-realization, and the liberation of the soul (moksha) through meditation and ethical living. Jainism's focus on simplicity, non-attachment, and minimizing harm to others and oneself resonates with my belief in leading a life of purity and ethical conduct.

Jainism's emphasis on introspection, mindfulness, and the practice of austerities align with my personal goal of achieving spiritual growth and inner peace. It provides a clear and practical framework for living a life of virtue, where the ultimate goal is to break free from the cycle of birth and death.

In summary, Jainism's philosophy of ahimsa, satya, and aparigraha provides a comprehensive guide for ethical living, self-improvement, and the pursuit of spiritual enlightenment that closely mirrors my beliefs about life practices and goals.