CLASS IX

ARTIFICIAL INTELLIGENCE

Chapter 1

AN INTRODUCTION TO ARTIFICIAL INTELLIGENCE

1.1 What is Artificial Intelligence?

Artificial Intelligence has always been a term which intrigues people all over the world. Artificial

Intelligence (AI) refers to the ability of machines to perform cognitive tasks like thinking, perceiving, learning, problem solving and decision making; it is inspired by the ways people use their brains to perceive, learn, reason out and decide the action.

Various organizations have coined their own versions of defining Artificial Intelligence. Some of them are mentioned below:

NITI Aayog: National Strategy for Artificial Intelligence

AI refers to the ability of machines to perform cognitive tasks like thinking, perceiving, learning,

problem solving and decision making. Initially conceived as a technology that could mimic human

intelligence, AI has evolved in ways that far exceed its original conception. With incredible advances made in data collection, processing and computation power, intelligent systems can now be deployed to take over a variety of tasks, enable connectivity and enhance productivity.

World Economic Forum

Artificial intelligence (AI) is the software engine that drives the Fourth Industrial Revolution. Its

impact can already be seen in homes, businesses and political processes. In its embodied form of

robots, it will soon be driving cars, stocking warehouses and caring for the young and elderly. It holds the promise of solving some of the most pressing issues facing society, but also presents challenges such as inscrutable “black box” algorithms, unethical use

of data and potential job displacement. As rapid advances in machine learning (ML) increase the scope and scale of AI's deployment across all aspects of daily life, and as the technology itself can learn and change on its own, multi-stakeholder collaboration is required to optimize accountability, transparency, privacy and impartiality to create trust.

European Artificial Intelligence (AI) leadership, the path for an integrated vision AI is not a well defined technology and no universally agreed definition exists. It is rather a cover term for techniques associated with data analysis and pattern recognition. AI is not a new technology, having existed since the 1950s. While some markets, sectors and individual businesses are more advanced than others, AI is still at a relatively early stage of development, so that the range of potential applications, and the quality of most existing applications, have ample margins left for further development and improvement.

Encyclopedia Britannica

Artificial intelligence (AI), is the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings. The term is frequently applied to the project of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize or learn, from past experience.

In other words, AI can be defined as:

AI is a form of intelligence; a type of technology and a field of study. AI theory and development of computer systems (both machines and software) are able to perform tasks that normally require human intelligence. Artificial Intelligence covers a broad range of domains and applications and is expected to impact every field in the future. Overall, its core idea is building machines and algorithms which are capable of performing computational tasks that would otherwise require human like brain functions.

1.1.1 History of AI – Live Science

The beginnings of modern **AI** can be traced to classical philosophers' attempts to describe human

thinking as a symbolic system. But the field of **AI** wasn't formally founded until 1956, at a conference at Dartmouth College, in Hanover, New Hampshire, where the term "**Artificial**

Intelligence" was coined. The graphic below appropriately explains why AI is a live science, what are the ups and downs in the pace of AI journey and how AI progressed in this domain from the year 1930-2000.

Activity

Dream Smart Home

Session Preparation

Logistics: [Individual Activity]

Materials Required:

A4 Sheets

Sketch-pens

Congratulations! You have just won the opportunity to design your Dream Home!

Say: *"We want to get to know you better. Home is where your heart is. Your home will always be the place for which you feel the deepest affection, no matter where you are. Draw a floorplan of your dream home. Does it have a swimming pool… or does it have a place for you to indulge in your favourite hobby... Or if you like gardening... Do you have a garden indoors or outdoors? Imagine you can look down from above at all the spaces in your dream home. What does it look like? Draw it out!"*

If you could design your home, what would your ideal home look like? Would it have some unique features other than the existing Drawing Room Kitchen Bedrooms etc.? Would it have a swimming pool? A garden - indoors or outdoors? A hobby corner? What if your home could follow all your commands? What are the luxuries that you can include?

Design a layout of a floor plan of your dream smart home. Include any gadgets or devices that you think will make it unique or "smart".