INDIVIDUAL TASK -MODULE 1

FOUNDATION OF AI: HISTORICAL MILESTONES AND CORE CONCEPTS

1.Prepare a timeline showing major milestones in AI history and compare different forms of intelligence

Timeline of Major Milestones in AI:

1) 1943 – Artificial Neuron Concept

McCulloch and Pitts proposed the first mathematical model of an artificial neuron.

This became the base idea for neural networks.

2) 1950 – Turing Test

Alan Turing introduced the concept of the Turing Test.

It checks whether a machine can behave like a human in conversation.

3) 1956 – AI Birth (Dartmouth Conference)

The term Artificial Intelligence was officially introduced.

AI became a separate field of study.

4) 1958 – Invention of Perceptron

Frank Rosenblatt introduced the perceptron, an early neural network model.

It was used for basic pattern recognition.

5) 1966 – First Chatbot (ELIZA)

Joseph Weizenbaum created ELIZA, an early chatbot.

It could communicate using simple text patterns.

6) 1970s – Expert Systems Era

AI started using rule-based systems.

These systems were used for decision-making in medical and business fields.

7) 1980s – Rise of AI in Industries

Expert systems became popular in real-world applications.

AI was used in banking, diagnosis, and manufacturing.

8) 1997 – Deep Blue Defeats Chess Champion

IBM's Deep Blue defeated Garry Kasparov.

It was a big achievement in game-playing AI.

9) 2000 – AI in Robotics (Roomba)

Robots like Roomba became popular in homes.

AI started being used in real-life daily applications.

10) 2011 – IBM Watson Wins Jeopardy

Watson defeated humans in the quiz show Jeopardy.

It showed AI could understand natural language.

11) 2012 – Deep Learning Revolution

AlexNet won the ImageNet competition.

Deep learning became popular due to GPUs and large databases.

12) 2016 – AlphaGo Defeats the Champion

AlphaGo defeated Lee Sedol in the Go game.

Go is complex, so this proved AI can solve difficult problems.

13) 2020 – AI Used in Healthcare and Research

AI helped in disease detection and drug discovery.

Used in COVID research and prediction models.

14) 2022 – Present – Generative AI Era

AI models like ChatGPT, DALL-E, Gemini etc became famous.

AI can generate text, code, images and creative content.

Comparison of Human, Animal & Machine Intelligence

Human Intelligence:

Humans can think logically and understand complex ideas.

Humans can learn quickly from a small amount of information.

Humans have emotions, morality and feelings.

Humans can take decisions based on experience.

Humans can imagine, innovate and create new things.

Humans can adapt easily to new environments.

Humans have self-awareness and consciousness.

Animal Intelligence:

Animals mainly depend on instinct and survival skills.

Animals learn through observation and training.

Animals are good at sensing danger.

They can communicate in their own ways.

Machine Intelligence

Machines work based on programming, algorithms and data.

Machines can process huge amounts of data very fast.

Machines learn using Machine Learning and Deep Learning models.

Machines are highly accurate in calculations.