Write brief (2–5 line) answers for the following:

Define Artificial Intelligence in your own words.

What is the difference between Narrow AI and General AI?

Mention two major milestones in the history of AI and explain their importance.

What is the Turing Test? Why is it important in AI?

Name 3 real-life applications of AI you use or know about.

1. **Define Artificial Intelligence in your own words.**

**Ans**:- Artificial Intelligence (AI) is the development of computer systems that can perform tasks typically requiring human intelligence. These tasks include learning from experience, understanding language, recognizing patterns, solving problems, and making decisions. In simple terms, AI enables machines to think, learn, and adapt like humans, but often faster and with greater accuracy.

AI can be applied to various domains, including:

- Virtual assistants (e.g., Siri, Alexa)

- Image recognition (e.g., facial recognition, object detection)

- Natural Language Processing (NLP) (e.g., chatbots, language translation)

- Predictive analytics (e.g., forecasting, recommendation systems)

1. **What is the difference between Narrow AI and General AI?**

**Ans:-**

| **Aspect** | **Narrow AI (Weak AI)** | **General AI (Strong AI)** |
| --- | --- | --- |
| **Purpose** | Designed to perform a specific task or set of tasks | Aims to match human-level intelligence and capabilities |
| **Scope** | Limited to predefined functions and datasets | Broad, adaptable across various tasks and domains |
| **Learning Capability** | Trained on a limited dataset, optimized for one problem | Can learn, reason, and apply knowledge across different situations |
| **Examples** | - Virtual assistants (e.g., Siri, Alexa) - Image recognition - Translation tools - Recommendation systems | Currently theoretical—no real-world examples yet |
| **General Reasoning** | Not capable of general reasoning | Capable of reasoning and problem-solving in multiple contexts |
| **Adaptability** | Cannot function outside its specific task | Can adapt to new, unfamiliar situations like a human |
| **Current Status** | Widely used and implemented today | Still under development; not yet achieved |

1. **Mention two major milestones in the history of AI and explain their importance.**

**Ans:- 1.IBM Deep Blue Defeats World Chess Champion (1997)**

* **What Happened:** IBM’s AI system, **Deep Blue**, defeated **Garry Kasparov**, the reigning world chess champion.
* **Importance:**
  + It was the first time a computer beat a world champion in a standard chess match.
  + Demonstrated that AI could handle complex problem-solving and strategy.
  + Marked a turning point in public and scientific perception of AI’s potential.

**2. Google DeepMind’s AlphaGo Defeats Go Champion (2016)**

* **What Happened:** **AlphaGo**, developed by **Google DeepMind**, defeated **Lee Sedol**, one of the world’s top Go players.
* **Importance:**
  + Go is a much more complex game than chess, with more possible moves than atoms in the universe.
  + AlphaGo used deep learning and neural networks, showcasing the power of **machine learning**.
  + This victory showed that AI could make intuitive, creative decisions—something once believed to be uniquely human.

1. **What is the Turing Test? Why is it important in AI?**

**Ans:-** The Turing Test is a measure of a machine's ability to exhibit intelligent behavior equivalent to, or indistinguishable from, that of a human. It's a benchmark for assessing a machine's capacity for human-like conversation and thought.

Importance in AI:

1. Benchmark for machine intelligence: Evaluates a machine's ability to think and behave like a human.

2. Drives AI research: Inspires research in areas like natural language processing and machine learning.

The Turing Test remains a significant concept in AI, pushing the boundaries of machine intelligence and human-like conversation.

1. **Name 3 real-life applications of AI you use or know about.**

**Ans:-**  **Virtual Assistants (like Siri, Alexa, Google Assistant):**  
These AI-powered assistants understand your voice commands, answer questions, set reminders, control smart home devices, and even carry out conversations.

 **Recommendation Systems (Netflix, YouTube, Amazon):**  
AI analyzes your past behavior—what you watch, buy, or like—to suggest movies, videos, or products you might enjoy next.

 **Spam Email Filtering:**  
AI algorithms detect and filter out unwanted or malicious emails, keeping your inbox clean and secure