

# Emerging Technologies Lecture 1 Notes

Posted in 9 Computer Science



These lecture notes are prepared by **Salman Ahmad**, who is both a **teacher** and a **web developer**. The purpose of this material is to make the topic clear and useful for students of Class 9 Computer Science.

## Table of Contents

Emerging Technology

Artificial Intelligence

History

Applications

MCQs

MCQs for testing

FAQs

## Definition

Emerging technology refers to new, innovative, and rapidly developing technologies that have the potential to change industries, societies, and human life.

**Examples:** Artificial Intelligence (AI), 5G Networks, Robotics.

## Artificial Intelligence (AI)

### Introduction

Artificial Intelligence (AI) refers to the ability of machines or computer systems to think, learn, and make decisions like humans. AI is widely used today. From self-driving cars, chatbots, and medical diagnosis to gaming and e-commerce recommendations.

### Historical Context of AI

- 1955: First AI program Logic Theorist (by Allen Newell & Herbert A. Simon).
- 1956: Term “Artificial Intelligence” introduced by John McCarthy at the Dartmouth Conference.
- 1950s–1960s: Early AI research → problem-solving and symbolic logic.
- 1970s–1980s: Expert systems (computers making decisions like humans).
- 1990s: Machine learning → computers started learning from data.
- 2000s: Growth of deep learning, robotics, and natural language processing (NLP).
- 2011s: Voice assistants like Siri, Alexa.
- 2023–Present: AI models like ChatGPT that understand and generate human-like text.

### Applications of AI

#### Healthcare

**Definition:** Use of AI in medical field for diagnosis, treatment, and patient care.

- AI detects cancer in X-rays faster than human doctors.
- AI-powered robots assist in surgery.
- Wearable devices use AI to monitor heart rate and alert patients.

#### Education

**Definition:** AI in education helps improve learning, teaching, and management.

- AI chatbots answer student questions online.

#### Transportation

**Definition:** AI is used in self-driving cars and traffic systems to make roads safer and reduce traffic. It helps control traffic lights and avoid accidents.

- Tesla’s self-driving cars.
- GPS apps using AI to suggest fastest routes.

## Automobile

**Definition:** AI is improving cars by adding smart features like automatic braking, lane assist, and better performance. It also helps in vehicle maintenance and makes driving safer and more comfortable.

**Example:**

Many modern cars from companies like BMW use AI for parking assistance and warning systems to avoid accidents.

## Finance

**Definition:** AI in finance automates transactions, fraud detection, and customer service.

- Banks use AI chatbots for customer queries.
- AI detects credit card fraud.
- AI advisors suggest investment plans.

## Gaming

**Definition:** AI controls characters, adjusts game difficulty, and makes games more interactive.

- AI adapts difficulty based on player's skill.

## Social Media

**Definition:** AI makes social platforms smarter and personalized. AI helps platforms learn what users like and show more relevant content.

- YouTube/TikTok recommending videos.
- Facebook uses AI to detect fake news, spam, and harmful content.
- Netflix suggesting shows based on watching history.

## Agriculture

**Definition:** AI in farming helps improve crop quality and productivity.

- AI drones check crop health.
- AI predicts best planting/harvesting times.
- Automated irrigation saves water.

## E-commerce

**Definition:** AI improves shopping and business operations.

- Amazon product recommendations.
- Chatbots helping customers.
- AI fraud detection in online payments.

# Multiple Choice Questions (MCQs) on Emerging Technology & Artificial Intelligence