KOTHARI INTERNATIONAL SCHOOL, NOIDA
ANNUAL EXAMINATION, SESSION: 2025-26
GRADE: 9 SUBJECT: ARTIFICIAL INTELLIGENCE (417)
MARKING SCHEME
SET A

DAY & DATE: WEDNESDAY- FEBRUARY 11, 2026
MAXIMUM MARKS: 50 **TIME ALLOTTED: 2 HOURS**
NAME: _____ **ROLL NO: _____**

GENERAL INSTRUCTIONS:

i). *This question paper consists of 21 questions in two sections: Section A and Section B*
ii). *Section A has objective type questions, whereas Section B contains Subjective type questions.*
iii). *Out of the given (5 + 16 =) 21 questions, a candidate has to answer (5 + 10 =) 15 questions in the allotted (maximum) time of 3 hours.*
iv). *All questions of a particular section must be attempted in the correct order.*

	SECTION – A	
	1. Answer any 4 out of the 6 questions.	
i.	What is a barrier to effective communication? (a) Clarity and conciseness (b) Shared understanding (c) Active listening (d) **Personal biases and emotions**	**(1)**
ii.	What is goal setting? (a**) The ability to set clear and achievable objectives** (b) The ability to set unrealistic and unattainable objectives (c) The ability to avoid setting objectives altogether (d) The ability to not set any goal	**(1)**
iii.	Which of the following is not a web browser? (a) Chrome (b) Microsoft edge	**(1)**

	(c) Safari (d) **Windows**	
iv.	A person who starts an enterprise is called an a) Teacher b) **Entrepreneur** c) IT proffesional d) Author	**(1)**
v.	Which of these is not a renewable natural resource? (a) Wind (b) Water (c) Soil (d) **Coal**	**(1)**
vi.	What is self-confidence? (a**) Belief in one's abilities** (b) The ability to manage stress (c) The ability to communicate effectively (d) The ability to help others	**(1)**
	2. Answer any 5 out of the 6 questions.	
i.	What is a smart home? (a) A house with no windows (b) A house for robots (c) **A house with advanced technology** (d) A house made of smart phones	**(1)**
ii.	What does NLU stands for in NLP? (a) New Language processing (b) Notable linguistic upgrade (c) **Natural language understanding** (d) Next level understanding	**(1)**

iii.	Face recognition is an example of _____ domain of AI. Computer vision	**(1)**
iv.	The term _____ refers to a system of principles and rules of conduct that govern an individual's acceptable behaviour and actions. ethics	**(1)**
v.	The process of cleaning and organizing the data is known as (a) Data Acquisition (b) Problem Scoping (c) **Data Exploration** (d) Data Validation	**(1)**
vi.	Name the virtual assistant made by Amazon echo alexa	**(1)**
3. Answer any 5 out of the 6 questions.		
i.	Which of the following stages is used by the programmers to write about the nature and boundaries of a problem? (a) Data Acquisition (b) **Problem Scoping** (c) Data Exploration (d) Data Validation	**(1)**
ii.	State whether the given statement is True or False. Project deployment is usually done before the project clears the testing and evaluation stage. false	**(1)**
iii.	Which one of the following is an application of AI? (a) typing a doc (b) **self-driven cars** (c) automatic doors open and shut (d) Microwave oven functioning	**(1)**
iv.	Statement 1: Where block helps you to focus on the context/situation/location of the problem. Statement 2: What block helps you need to determine the nature of the problem. (a) Statement1 is correct and Statement2 is incorrect (b) Statement2 is correct and Statement1 is incorrect (c) Both Statement1 and Statement 2 are incorrect (d) **Both Statement1 and Statement 2 are correct**	**(1)**
v.	Which of the following is not a method to collect data? (a) Surveys	**(1)**

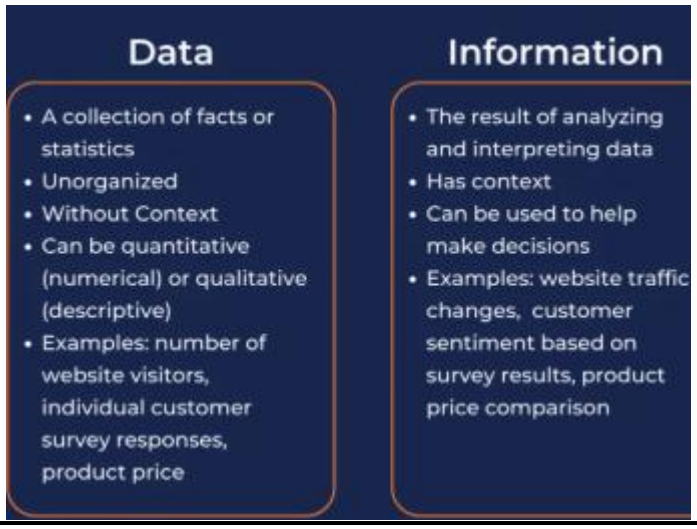
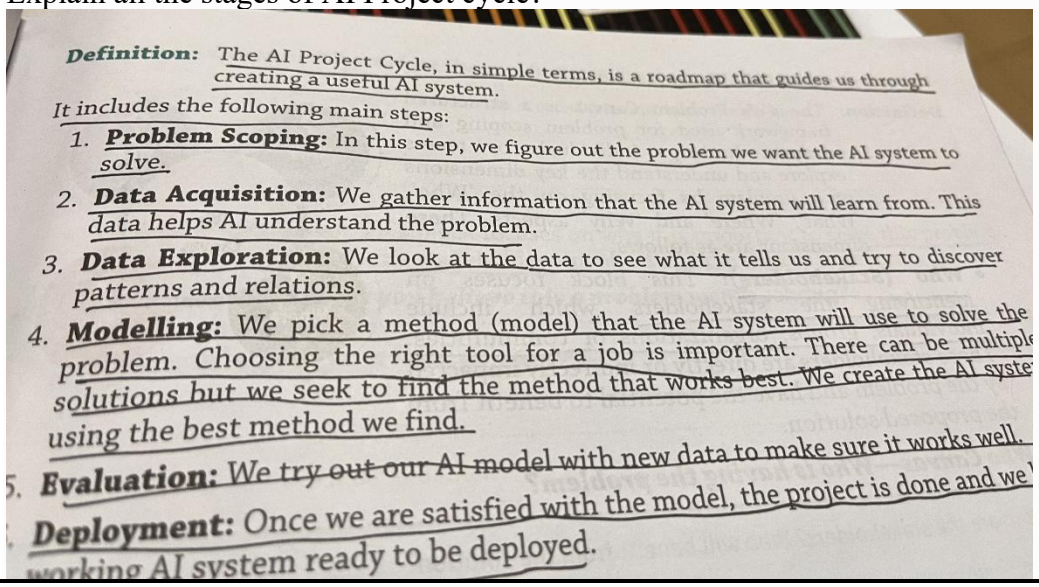
	(b) Web Scrapping (c) Sensors (d) **Archives**	
vi.	Weak AI is also called _____ (a**) Narrow AI** (b) General AI (c) Natural AI (d) Generalised AI	**(1)**
	4. Answer any 5 out of the 6 questions.	
i.	Name the technology that uses electromagnetic field to automatically identify and track tags attached to objects? (a) **RFID** (b) RDIF (c) FIDR (d) FDIR	**(1)**
ii.	Which of the following talks about context/ situation of the problem? (a) who (b) **where** (c) what (d) why	**(1)**
iii.	Why is the"why" aspect of the 4Ws framework important in problem scoping? (a) To identify project stakeholders (b) To determine the project's budget (c) **To understand the purpose of the project** (d) To analyse the project's timeline	**(1)**
iv.	Quantitative data is numerical in nature. a. **True** b. False	**(1)**
v.	What are the basic building blocks of qualitative data? (a) Individuals (b) Units (c) **Categories** (d) Measurements	**(1)**

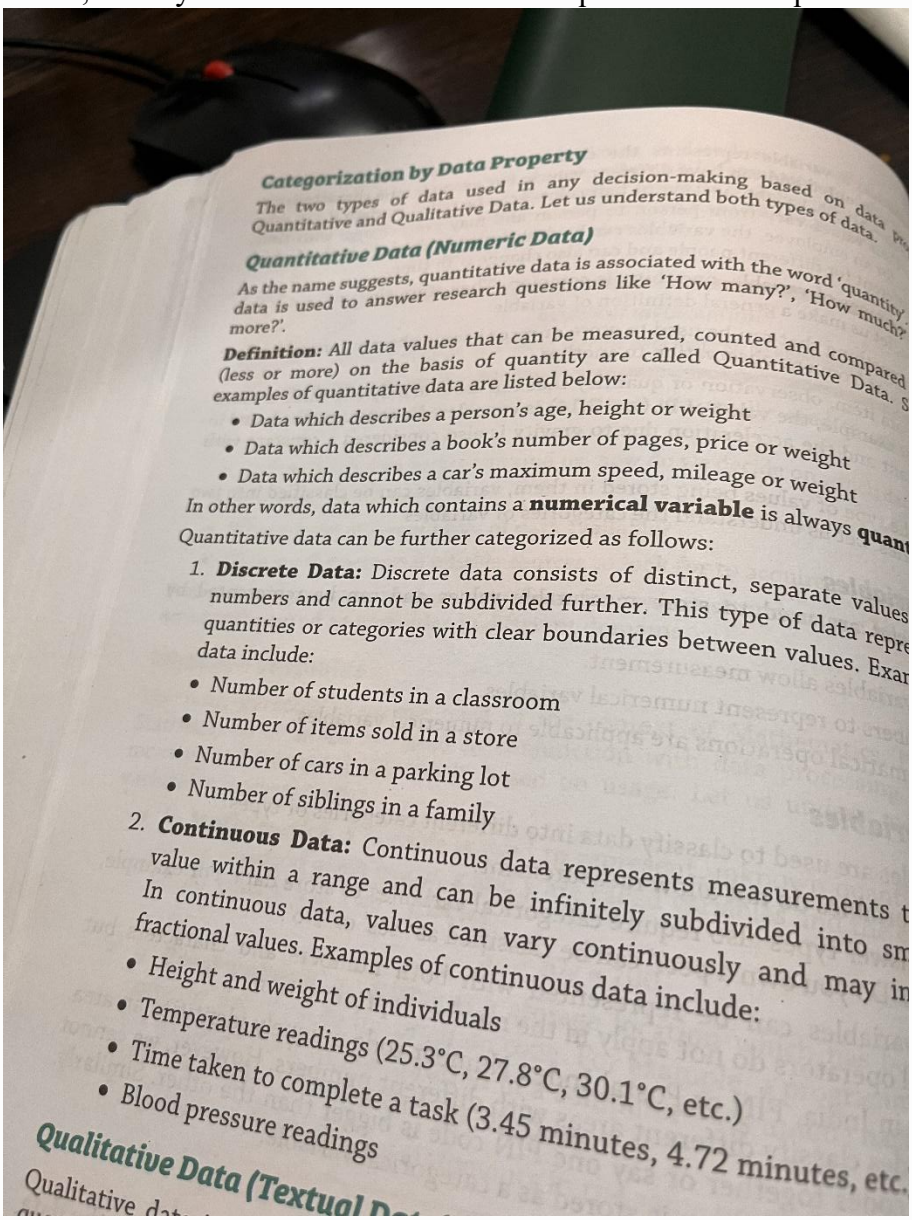
vi.	A Bar Graph is an example of? a. Textual b. Tabular c. **Graphical** d. Media	**(1)**
5. Answer any 5 out of the given 6 questions.		
i.	____ is the practice of protecting digital information from unauthorized access, corruption, or theft throughout its entire lifecycle. (a) **data security** (b) data literacy (c) data privacy (d) data acquisition	**(1)**
ii.	_____relates to the manipulation of data to produce meaningful insights. (a) Data Processing (b) Data Interpretation (c) **Data Analysis** (d) Data Presentation	**(1)**
iii.	Find the missing pattern from the following 2, 4, 6, 8, 10, 12, ? **14**	**(1)**
iv.	What is the probability of getting head when you toss a coin once? (a) 0.75 (b) 1 (c) 0 (d) **0.5**	**(1)**
v.	With one throw of a six sided dice , what is the probability of getting an even number? (a) 1/5 (b) 2/5 (c) 5/6 (d) **1/2**	**(1)**
vi	Which of the following is NOT a strong password practice? (a) Using a combination of uppercase, lowercase, numbers, and special characters (b) **Using your birthdate as your password** (c) Using a long password	**(1)**

	(d) Regularly changing your password	
	Section – B **Answer any 3 out of the 5 questions.**	
6.	What are the basic elements of a communication cycle? Seven major elements of communication process are: (1) sender (2) ideas (3) encoding (4) communication channel (5) receiver (6) decoding and (7) feedback.	**(2)**
7.	Why is self-awareness important? Why is self-awareness important in life? With awareness of self, you can regulate your interior condition, which has a ripple effect through your behaviour and actions. It is a practice that can challenge your thoughts, your behaviour and sense of self. When done consistently, you are better able to regulate your emotions and responses	**(2)**
8.	Differentiate between RAM and ROM?	**(2)**
9.	Explain any two characteristics of entrepreneur? Risk-Taking Ability: Entrepreneurs aren't reckless; they are calculated risk-takers who assess potential uncertainties and are comfortable with potential failure, viewing it as a learning opportunity to manage and overcome challenges for business growth. Innovation & Creativity: This involves generating novel ideas, improving existing processes, or creating new products/services that offer better solutions for customers, driving market disruption and value creation.	**(2)**
10.	What is the role of government in green economy? The main role of government in a green economy is to set clear policies, regulations, and incentives (like subsidies, green taxes) to correct market failures, drive investment in sustainable technologies, and guide the transition towards low-carbon, resource-efficient, and socially inclusive growth, ensuring private sector innovation thrives within clear environmental boundaries	**(2)**
	Answer any 4 out of the given 6 questions.	

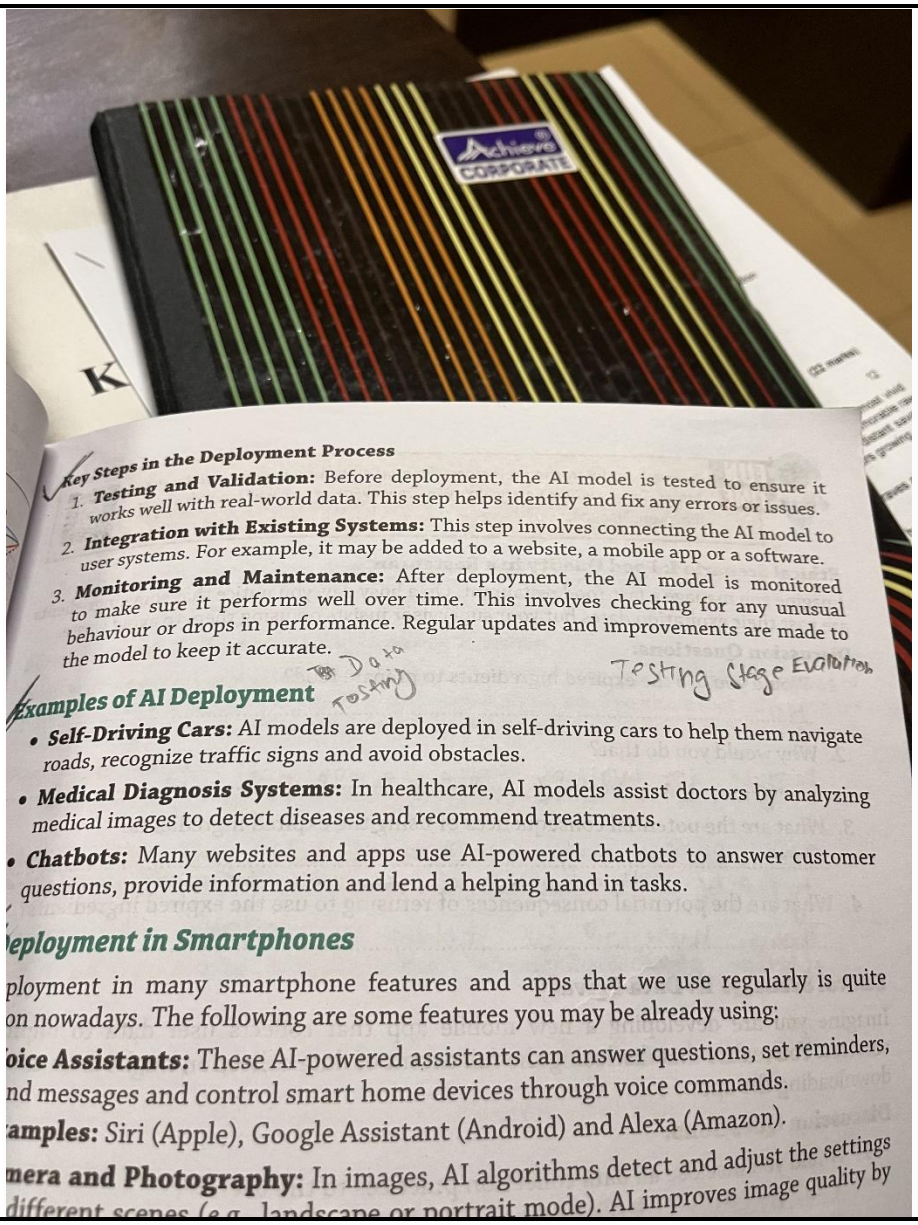
Feature	RAM	ROM
Full Form	Random Access Memory	Read-Only Memory
Type of Memory	Volatile	Non-Volatile
Data Loss	Data is lost when power is off	Data stays safe
Use	Temporary storage	Permanent instructions
Speed	Very fast	Slower than RAM
Editable	Can be changed	Cannot be easily changed
Storage Capacity	High	Low
Cost	Expensive	Cheaper
Working Stage	Active during processing	Active during booting
Example	DDR4, DDR5	BIOS, Firmware

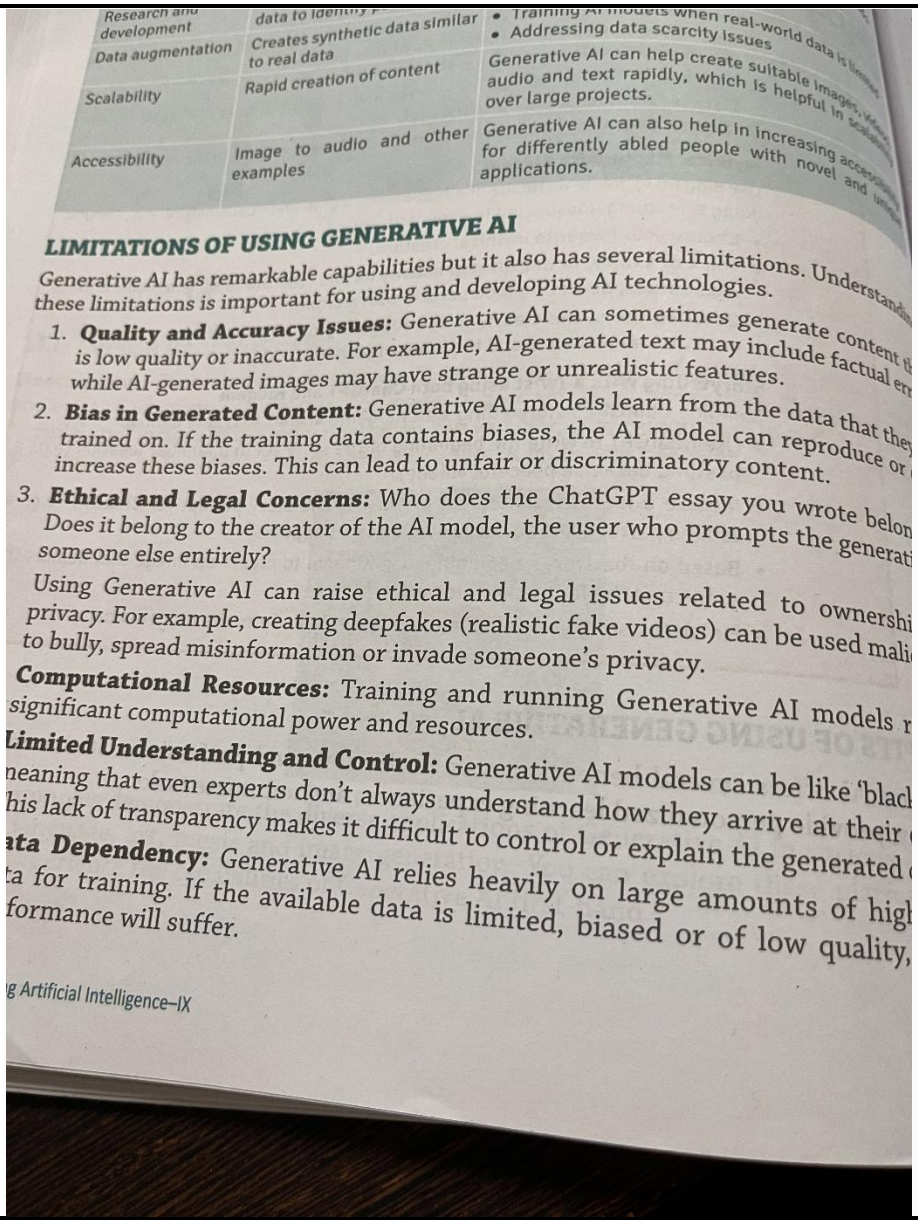
11	Differentiate between Strong AI and weak AI? Weak AI, also called Narrow AI, refers to an AI system that is designed and trained to perform a specific task or a narrow range of tasks. • Such Al systems are good at performing a particular job like language translation or playing a game. However, they don't possess general human-like intelligence. • Weak AI doesn't understand the tasks it performs-it simply follows instructions based on the patterns in data. • Examples include virtual assistants, recommendation systems and image recognition tools. Strong AI (General AI) Strong AI, also known as General AI, is a different level of AI system. The goal is to create a machine that thinks and learns like a human. Strong AI is still a theoretical concept and doesn't exist yet since creating it would require machines to understand and replicate human thought processes. • Such AI systems would potentially mimic human consciousness and self-awareness. • Strong AI would be capable of understanding, learning, reasoning and solving problems across different domains, mimicking human experts.	**(2)**
12	Explain about disinformation and manipulation? Disinformation and Manipulation Disinformation and manipulation are significant concerns related to the use particularly in the context of generating and spreading false or misleading informat Disinformation: Disinformation is false information that is intentionally spread or confusé people. AI can make the problem of disinformation worse in different w • Deepfakes: AI tools can make fake videos, audios or images look realistic. These deepfakes can be used to spread lies or ruin someone's reputation. Jam vadi wod ba sbou o For example, consider the given image of Elon Musk selling vegetables in an Indian market. (This is a fake AI-generated image.) • Automated Bots: Al-driven bots can be programmed to create and spread lots of fake news or confusing content on social media. This makes disinformation reach more people.	**(2)**
13	Explain two steps to become data literate? Ask the Right Questions . What kind of data is it? Numbers, text, images-data comes in many forms. Understanding the type of data helps you interpret it correctly. • Where does it come from? Be cautious of data without a credible source. Imagine a friend telling you that they saw a talking cat-would you believe them? Step 2: Learn data analysis techniques: Explore methods to analyze data such as creating charts, graphs and tables. This helps in visualizing and understanding the patterns and trends within the data. Actions: Learn Basic Statistics • Mean, Median, Mode: These are the cornerstones of basic statistics. Th help you understand the central tendency of a dataset, explaining where m partner	**(2)**

14	What is data security? Data Security refers to practices that keep information safe from unauthorized entry ,theft corruption or destruction. This ensures protection of your data. It is shield that keeps hackers, malware and other threats at bay.	**(2)**
15	Mention few examples of how generative AI is used in various fields? Kidgeni Chatgpt opensara	**(2)**
16	Differentiate between data and information? 	**(2)**
	Answer any 3 out of the 5 given questions.	
17	Explain all the stages of AI Project cycle? 	**(4)**
18	What is a variable? Explain types of data by their properties and by organization?	**(4)**

	In Mathematics, a variable is used to represent unknown quantities. For in the equation given below, x and y are called variables and the equation Linear Equation in Two Variables.  **Categorization by Data Property** The two types of data used in any decision-making based on data Pr... Quantitative and Qualitative Data. Let us understand both types of data. **Quantitative Data (Numeric Data)** As the name suggests, quantitative data is associated with the word 'quantity' data is used to answer research questions like 'How many?', 'How much? more?'. **Definition:** All data values that can be measured, counted and compared (less or more) on the basis of quantity are called Quantitative Data. S... examples of quantitative data are listed below: • Data which describes a person's age, height or weight • Data which describes a book's number of pages, price or weight • Data which describes a car's maximum speed, mileage or weight In other words, data which contains a **numerical variable** is always **quant...** Quantitative data can be further categorized as follows: 1. **Discrete Data:** Discrete data consists of distinct, separate values... numbers and cannot be subdivided further. This type of data repre... quantities or categories with clear boundaries between values. Exar... data include: • Number of students in a classroom • Number of items sold in a store • Number of cars in a parking lot • Number of siblings in a family 2. **Continuous Data:** Continuous data represents measurements t... value within a range and can be infinitely subdivided into sm... In continuous data, values can vary continuously and may in... fractional values. Examples of continuous data include: • Height and weight of individuals • Temperature readings (25.3°C, 27.8°C, 30.1°C, etc.) • Time taken to complete a task (3.45 minutes, 4.72 minutes, etc. • Blood pressure readings **Qualitative Data (Textual D...** Qualitative da...	
19	Differentiate between Artificial Intelligence, Machine Learning and Deep Learning?	**(4)**

	<table><tr><th>Artificial Intelligence</th><th>Machine Learning</th><th>Deep Learning</th></tr><tr><td>A broad field of study that focuses on creating intelligent machines.</td><td>A subset of AI that enables computers to learn from data and make predictions or decisions.</td><td>A subset of machine learning that employs neural networks to learn hierarchical representations of data.</td></tr><tr><td>Involves the simulation of human intelligence to solve complex problems.</td><td>Relies on statistical techniques to enable computers to learn from data.</td><td>Utilizes neural networks with multiple layers to extract features and patterns from data.</td></tr><tr><td>Relies on both structured and unstructured data to make informed decisions.</td><td>Depends on labeled and unlabeled data for training and testing.</td><td>Requires large amounts of labeled data to train complex models.</td></tr><tr><td>Can involve rule-based approaches or expert knowledge for feature extraction.</td><td>Automatically extracts features from data using algorithms.</td><td>Learns hierarchical representations of features from raw data without explicit feature</td></tr><tr><td>Can range from simple rule-based systems to complex cognitive architectures.</td><td>Can handle moderate complexity tasks, depending on the size and quality of data.</td><td>Excels in handling high-dimensional and complex data, but requires significant computational</td></tr><tr><td>Widely applicable in various domains, such as healthcare, finance, and robotics.</td><td>Used in areas like image recognition, natural language processing, and recommendation systems.</td><td>Commonly applied in computer vision, speech recognition, and natural language process</td></tr></table> 556 × 447	
20	What are the key steps in the deployment process? Mention few examples of AI deployment?	**(4)**

		
21	What are the limitations of using generative AI?	**(4)**



Research and development	data to identify	• Training AI models when real-world data is • Addressing data scarcity issues
Data augmentation	Creates synthetic data similar to real data	Generative AI can help create suitable images, audio and text rapidly, which is helpful in over large projects.
Scalability	Rapid creation of content	
Accessibility	Image to audio and other examples	Generative AI can also help in increasing for differently abled people with novel and applications.

LIMITATIONS OF USING GENERATIVE AI

Generative AI has remarkable capabilities but it also has several limitations. Understandi
these limitations is important for using and developing AI technologies.

1. **Quality and Accuracy Issues:** Generative AI can sometimes generate content
   is low quality or inaccurate. For example, AI-generated text may include factual er
   while AI-generated images may have strange or unrealistic features.
2. **Bias in Generated Content:** Generative AI models learn from the data that the
   trained on. If the training data contains biases, the AI model can reproduce or
   increase these biases. This can lead to unfair or discriminatory content.
3. **Ethical and Legal Concerns:** Who does the ChatGPT essay you wrote belon
   Does it belong to the creator of the AI model, the user who prompts the generati
   someone else entirely?

   Using Generative AI can raise ethical and legal issues related to ownershi
   privacy. For example, creating deepfakes (realistic fake videos) can be used mali
   to bully, spread misinformation or invade someone's privacy.

Computational Resources: Training and running Generative AI models r
significant computational power and resources.

Limited Understanding and Control: Generative AI models can be like 'black
meaning that even experts don't always understand how they arrive at their
his lack of transparency makes it difficult to control or explain the generated

ata Dependency: Generative AI relies heavily on large amounts of high
ta for training. If the available data is limited, biased or of low quality,
formance will suffer.

g Artificial Intelligence–IX