

A. Short Answer type Questions:

1. What are the three important points considered for defining the term intelligence?

Ans - The three important points considered for defining the term intelligence are learning, understanding the information and applying that knowledge to your life.

2. which two word play an important role in making AI machine?

Ans - Data and Algorithm

3. Give a few example around which are not AI.

Ans - Automatic washing machine, Air conditioners or remote-control fans, Remote control toys-cars and Smart TV are the examples which are not AI.

4. Define AI in terms of World Economic Forum.

Ans - 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.

5. Give any two applications of Computer Vision.

Ans - Face Lock in Smartphones and Self-driving Cars.

6. Give two real time applications of NLP.

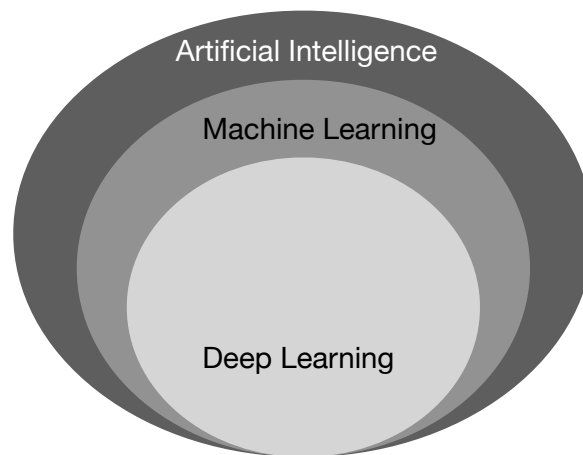
Ans - Autocorrect Feature and Chatbot.

B. Long Answer Type:-

1. AI is a bigger picture and machine learning and deep learning are its sub-parts. Explain.

Ans - Machine Learning is a subset of AI which uses statistical methods to enable machines to improve with experience. It is one of

the most popular techniques to build AI systems across the globe. It is the science of getting machines to interpret, process and analyse data in



order to solve problems.

Deep Learning is a subset of machine learning that is inspired by the functionality of our brain cells called neurons which led to the concept of artificial neural networks. It is a process of implementing neural networks on high dimensional data to gain insight and form solutions.

3. Differentiate Between Musical Intelligence and Logical-Mathematical Intelligence.

Ans - Musical Intelligence is the skill of composing, performing and appreciating musical patterns. The people with this Intelligence have an ability to recognize tone, rhythm and timbre. On the other hand, Logical-Mathematical Intelligence is the ability to quantify things, analyzing problems logically, making hypotheses and solving them. The people with this Intelligence think in terms of cause and effect.

4. What is decision making in AI?

Ans - Decision making is the process of comparing our different alternatives and coming to a conclusion on what exactly you want to do. Our brain plays a very important role in making all types of decisions to deal with different problems in life. We make decisions every day, starting from saying to doing, consciously or unconsciously. Everything we do is a result of our decisions.

2. Differentiate Between Machine Learning and Deep learning.

Ans -

Parameters	Deep Learning	Machine Learning
Data Dependency	When the size of the data is small, a deep learning algorithm does not perform well as a deep learning algorithm needs large amounts of data to understand perfectly.	Machine Learning algorithm can easily work with smaller data set.
Hardware Dependency	Deep Learning algorithms are heavily dependent on high-end machines	Machine Learning algorithms can work on low end machines as well.
Problem Solving Approach	Deep Learning algorithm solves the problem end to end.	When we are solving a problem using a traditional machine learning algorithm it is generally recommended that we first break down the problem into different sub parts and solve them individually and then finally combine them to get the desired result.
Execution Time	Usually, Deep Learning algorithms take a long time to train because there are many parameters making the training time longer than usual.	Machine Learning algorithms take much less time to train.

Exercise



Solved Questions

SECTION A (Objective Type Questions)

AI Quiz

A. Tick (✓) the correct option.

1. A company used a system for recruitment, creating a situation in which many eligible women were left out of the consideration. What is this known as?
 - a. Misinterpretation of data ☐
 - b. Problem of inclusion ☐
 - c. Gender bias ☒
 - d. Data privacy ☐
2. Which among the following are the major concerns related to ethics?
 - a. Issues, situations, choices ☐
 - b. Decisions, speeches, actions ☐
 - c. Feelings, thoughts, expressions ☐
 - d. All of these ☒
3. Which of the following is the most common application of AI used by e-commerce websites for customer support?
 - a. Price filter ☐
 - b. Chat bot ☐
 - c. Buying suggestions ☐
 - d. All of these ☒
4. Which of the following is an AI domain that deals with images or videos?
 - a. Computer vision ☒
 - b. Data science ☐
 - c. NLP ☐
 - d. AI access ☐
5. Which of the following stands for NLP?
 - a. Natural Logic Processing ☐
 - b. Neutral Logic Program ☐
 - c. Neutral Language Process ☐
 - d. Natural Language Processing ☒
6. Which machines are intelligent enough to develop algorithms for themselves?
 - a. Artificial intelligence ☐
 - b. Machine learning ☐
 - c. Deep learning ☒
 - d. Data science ☐
7. Price comparison websites are related to which domain of AI?
 - a. Artificial intelligence ☐
 - b. Machine learning ☐
 - c. Deep learning ☐
 - d. Data science ☒
8. Which among the following machine learning based data analytic systems discriminate against particular groups of people?
 - a. AI ethics ☐
 - b. AI bias ☒
 - c. AI access ☐
 - d. Data privacy ☐
9. is a domain of AI related to data systems and processes, in which the system collects numerous data, maintains data sets and derives meaning out of them.
 - a. NLP ☐
 - b. Data science ☒
 - c. Computer vision ☐
 - d. Augmented reality ☐



10. Which sub-field of AI is focused on enabling computers to understand and process human languages?

a. Deep learning

☐

b. Machine learning

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c. NLP

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d. Data science

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11. Which type of intelligence is the ability related to how a person uses his limbs like dancing, sports, etc.?

a. Linguistic

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b. Naturalist

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c. Kinesthetic

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d. Musical

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12. What is not AI?

a. A fully automatic washing machine

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b. A humanoid

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c. A self-driving car

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d. Virtual assistants

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B. Fill in the blanks.

1. Smartphones are an important source of data which can be accessed by the outside world.

2. AI is the science and engineering of making machines intelligent.

3. Chatbots are replacing the humans at customer care services.

4. Information privacy is the accessibility of an individual's data.

5. Face lock on smartphones is an example of CV.

6. AI is an approach to make machines which can think and make decisions.

7. Intelligence is the ability to communicate and interact effectively.

8. The ability to understand yourself is Intrapersonal Intelligence.

9. The working of Air conditioners does not use AI.

10. Our Brain plays a very important role in making all types of decisions.

C. State whether these statements are true or false.

1. Data science is one of the branches of AI.

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2. Google ads uses AI to show ads based on the user's desires.

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3. In uber cab service, pricing and availability is decided by AI.

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4. The traditional machine learning algorithms stop improving after a certain saturation point.

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5. All apps collect some or the other kind of data.

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6. Our heart plays a very important role in making decisions.

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7. AI is a technique of getting machines to work and behave like humans.

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8. Smart Tv is the best example of AI.

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9. Machines become intelligent with AI.

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10. Data is not needed to make machines intelligent.

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D. Match the following:

- | | | |
|---------------------------------------|---|--------------------------------|
| 1. Data piracy | c | a. Collects private data |
| 2. WhatsApp | a | b. Object classification |
| 3. Telegram | d | c. Information Piracy |
| 4. Email filters | e | d. Do not collect private data |
| 5. Google Lens | b | e. Use NLP |
| 6. Intrapersonal Intelligence | h | f. Charles Darwin |
| 7. Spatial Intelligence | j | g. Oprah Winfrey |
| 8. Naturalist Intelligence | f | h. Mother Teresa |
| 9. Interpersonal Intelligence | g | i. Pascal |
| 10. Logical-Mathematical Intelligence | i | j. Leonardo Da Vinci |

SECTION B (Subjective Type Questions)

A. Short answer type questions:

1. What are the three domains of AI?

Ans. The three domains of AI are:

- Data Science
- Computer Vision
- Natural Language Processing

2. Name three possible areas where the use of AI can lead to unemployment.

Ans. The three possible areas where the use of AI can lead to unemployment are:

- Self-driven vehicles will replace the human driver in the future.
- In hospitals the robots can be used for vaccinating the patients.
- AI-enabled devices attached to patients' bodies can be easily monitored with a smaller number of nurses.

3. Explain in short how we make decisions.

Ans. We make decisions every day, starting from saying to doing, consciously or unconsciously. Everything we do is a result of our decisions. The choices that we get may be big or small, but there's no easy formula for the right decision. We form an opinion and choose the action based on reasons, our past experiences and availability of information.

4. How do machines become intelligent?

Ans. Machines become intelligent with the algorithms that are fed into them by developers. They are trained with information that makes them intelligent to achieve the desired output. An intelligent machine has the ability to monitor its environment and then adjust its actions based on what it senses.

5. Why is intelligence defined as the ability to interact with the real world?

Ans. Intelligence is defined as the ability to interact with the real world because it helps you communicate and interact effectively with the people around you and the surrounding environment so that you can recognize, understand and then respond in terms of your actions.

6. Explain the two important words that make up the term artificial intelligence.

Ans. Artificial Intelligence consists of two words: Artificial and Intelligence. Artificial means not natural, it's man-made. Intelligence means ability to acquire and apply knowledge and skills. To understand further, let's explore the term Intelligence.



