

**BCM SCHOOL**  
**BASANT AVENUE, DUGRI ROAD, LUDHIANA**  
**CLASS IX**  
**ARTIFICIAL INTELLIGENCE**  
**ASSIGNMENT SOLUTIONS**

**Q 1) One mark question answers**

**(5 marks)**

**a) Name any three important areas where AI has made a remarkable impact.**

Answer: Areas where AI has made a remarkable impact are: a. Security surveillance b. Education c. Space exploration

**b) What is a Smart Home?**

Answer: Smart Homes are homes that use internet connected devices to empower remote monitoring and management of appliances and devices such as for lighting and heating.

**c) How AI is of great help in email communication?**

Answer: Email Spam Filters: Email categorization and spam filters are one of the powering features of AI that affect our inbox. Simple rule-based filters are used to mark spam or put email into various categories as Primary, Social, Promotion or Important.

**d) What is robotics?**

Ans. Robotics is a subfield of Engineering dedicated to the research development and operation of robots. Robotics engineer study how a constructed physical system can supplement or perform a task or interface with new technology.

**e) What are the four waves in the development of Artificial Intelligence?**

Ans. The shifting of artificial intelligence from the science fiction to real science started in 1940 and the term artificial intelligence was not well up until 1956. The phases in the development of artificial intelligence have been divided into four waves.

**First wave:** The first wave booster to the development of the AI happen with the growth of the internet.

**Second wave:** The second substantial boost happened with the advancement of mobile internet.

**Third wave:** The 3rd series boost to the development of AI happened with the evolution of internet of things (IOT).

**Fourth wave:** In this wave truly artificial intelligence system will evolve and will surpass what human beings are capable of doing today.

**Q 2) Two marks Question Answers**

**(10 MARKS)**

**a) Explain any three important careers in AI.**

Answer: a. Big Data Engineer: The role of a Big Data Engineer is to create an ecosystem for the business systems to interact efficiently. Their primary task is to build and effectively administer big data of an organization. They also have to carry out the function of obtaining outcomes from big data in a robust manner. b. Machine Learning Engineer: Machine learning engineers are involved in building and maintaining self- running software that facilitates machine learning initiatives. They are in continuous demand by the companies and their position rarely remains vacant. They work with huge chunks of data and possess extraordinary data management traits. c. Robotics Scientist: A reduction in jobs will indeed take place due to the emergence of robotics in the field of AI. Conversely, jobs will also rise as robotics scientists are in incessant demands by major industries for programming their machines.

**b) What are the Limitations of AI?**

Ans. The following infographic will help us to understand the limitations of AI:

- 1.) Learning new natural language
- 2.) Reading and Understanding articles and books
- 3.) Understanding the implications and making decisions
- 4.) Visualizing the scenes
- 5.) Exhibiting automation and intelligence.

**c) What are the six dimensions of AI?**

Ans: The relevance of AI in the day-to-day human life can be seen through the six dimensions of Artificial Intelligence:

- 1.) Automation: Automatic repetitive learning and discovery by using data.
- 2.) Augmentation: Augmentation of the intelligence of existing products
- 3.) Adaptation: Adapting by using data
- 4.) Analysis: Finding deeper truths by analyzing data
- 5.) Accuracy: Increasing accuracy of existing or new systems
- 6.) Acquisition: Acquiring more out of data.

**d) What are issues covered under the Sustainable Development Goals?**

Ans. It includes:

- 1.) Ending Extreme Poverty
- 2.) Ensuring all Children Receive Proper Education.
- 3.) Achieving Equal Opportunities for all.
- 4.) Promoting Better Practices for Consumption and Production, that will help making the Planet Cleaner and Healthier

**e) Define the term AI? What all behavior Artificial Intelligent machine should have in connection to human behavior?**

Ans. In simple words, Artificial Intelligence can be defined as the ability of a computer system that is hardware and software to do tasks that normally require human beings to use Intelligence two different. 1. Planning 2. Learning 3. Reasoning 4. Perception 5. Problem solving 6. Motion 7. Manipulation 8. Creativity 9. Social intelligence 10. Knowledge representation