

ATOMIC ENERGY CENTRAL SCHOOL-1, HYDERABAD
PT-I EXAMINATION, 2025-'26

Class: X

Duration: 1½ hours

Subject: AI (Artificial Intelligence)

Max. Marks: 40

General Instructions:

1. This Question Paper consists of two sections: Section-A & Section-B
2. All questions of a particular section must be attempted in the correct order.

Section-A

1. Answer any 5 out of the given 6 questions:

(1 X 5 = 5)

- i. What is the primary purpose of AI Project Cycle?
(A) to provide a set of random steps for AI development
(B) to systematically plan, develop and deploy AI solutions
(C) to focus only on the final implementation of AI systems
(D) to perform data analytics without a structured plan ()
- ii. Which of the following is NOT an application of computer vision?
(A) categorizing photos in a smartphone
(B) identifying faces in CCTV footage
(C) playing music based on mood
(D) enabling self-driving cars ()
- iii. What is one of the primary uses of drones equipped with computer vision?
(A) capturing high-resolution videos for entertainment
(B) performing aerial inspections and monitoring large areas
(C) delivering packages to remote locations
(D) controlling air traffic ()
- iv. What is one of the Sustainable Development Goals (SDGs) addressed by ethical AI frameworks?
(A) enhancing global trade efficiency
(B) ensuring AI is trustworthy and safe for societal use
(C) eliminating all human labour
(D) increasing AI production ()
- v. What do frameworks provide in the context of problem-solving?
(A) random solutions (B) step-by-step guidance
(C) legal advice (D) ethical justifications ()
- vi. Assertion (A): Bioethics provide a framework to ensure decisions in healthcare are made fairly and respect individual rights.
Reasoning (R): The primary goal of bioethics is to ensure that decisions in healthcare protect human dignity.
(A) Both A and R are true and R is the correct explanation of A
(B) Both A and R are true but R is not the correct explanation of A
(C) A is true but R is false
(D) A is false but R is true ()

2. Answer any 5 out of the given 6 questions:

(1 X 5 = 5)

- i. Machine learning focuses on _____.
(A) building circuits (B) learning from data
(C) simulating emotions (D) physical robots ()
- ii. Which of these is an application of Machine Learning?
(A) building databases (B) writing programming code
(C) manual data processing (D) recommendation systems ()
- iii. Which of the following uses unsupervised learning?
(A) a chatbot answering FAQs using predefined rules
(B) a model predicting exam scores based on past performance
(C) grouping photos in a gallery into “vacation”, “family” and “pets” categories
(D) a weather prediction system using historical data ()
- iv. Which Machine Learning technique is best for grouping customers based on their shopping behaviours?
(A) Regression (B) Classification
(C) Association (D) Clustering ()
- v. An AI agent playing a game and learning from its rewards and penalties is an example of
(A) supervised learning (B) unsupervised learning
(C) reinforcement learning (D) evolutionary learning ()
- vi. Reinforcement learning is particularly useful for scenarios where
(A) large amounts of labelled data are available
(B) the desired outcome is clear, but the path to achieve it is unknown
(C) the data is structured and easily categorized
(D) the task requires reasoning and logical deduction ()

3. Answer any 5 out of the given 6 questions:

(1 X 5 = 5)

- i. Once the model is confirmed to meet the desired goals, it is ready for _____, where it will be integrated into the production environment.
- ii. Predictive models, which are built from historical _____, can be used in various fields such as weather forecasting, healthcare, finance and more.
- iii. Machines and robots powered by AI can replace human workers, which could lead to _____.
- iv. The principle of _____ emphasizes respecting an individual’s right to make decisions about their own body and life.
- v. The more data we have, the more difficult the analysis will be, leading to more accurate predictions. (True / False)
- vi. Data science is implemented in e-commerce websites like Amazon and Flipkart. (True / False)

4. Answer any 5 out of the given 6 questions: (1 X 5 = 5)

- i. _____ approach refers to a model where the relationship or patterns in the data are not defined by the developer.
- ii. _____ is a mathematical approach to find a relationship between two or more variables.
- iii. A neural network is divided into multiple layers and each layer is further divided into several blocks called _____.
- iv. The Speech Recognition devices use _____ to understand spoken language and convert speech to text.
- v. Machine learning can be broadly classified into Supervised, Unsupervised and Reinforcement learning. (True / False)
- vi. AI can fully replicate the complexity of the human brain. (True / False)

Section-B

Answer any 3 of the following 4 questions: (2 X 3 = 6)

- 5. “Google Lens is an application of Google that can be used to identify any image by clicking a picture from the real world”. Explain this statement with example.
- 6. Explain each component of 4W Problem Canvas.
- 7. Explain any 2 applications of Statistical Data.
- 8. Discuss any two main domains of AI.

Answer any 3 of the following 4 questions: (2 X 3 = 6)

- 9. Differentiate between labelled and unlabelled dataset.
- 10. Explain the term Clustering with an example.
- 11. Explain Unsupervised Learning approach with an example.
- 12. Explain any two examples of Regression Model.

Answer any 1 of the following 2 questions: (4 X 1 = 4)

- 13. Discuss the need of ethical frameworks for AI.
- 14. Describe the principle of Bioethics.

Answer any 1 of the following 2 questions: (4 X 1 = 4)

- 15. Differentiate between Machine Learning Deep Learning with respect to the following parameters:
 - i) Data dependency ii) Hardware dependency
 - iii) Problem solving approach iv) Execution time
- 16. How does Neural Networks work?
