



Delhi Public School, Howrah

PERIODIC ASSESSMENT I (2025-2026)

CLASS – X

Care must be taken not to write anything on the question paper. All the questions must be attempted in the correct sequence.

SUBJECT: ARTIFICIAL INTELLIGENCE (SUBJECT CODE 417)

THEORY EXAMINATION

Time Allowed:-1 Hour

F.M.-25

General Instructions:

1. Please read the instructions carefully.
2. This Question Paper consists of **15 questions** in two sections: Section A & Section B.
3. Section A has Objective type questions whereas Section B contains Subjective type questions.
4. Out of the given (3 + 12 =) **15 questions**, a candidate has to answer (3 + 6 =) **9 questions** in the allotted (maximum) time of **1 hour**.
5. All questions of a particular section must be attempted in the correct order.
6. **SECTION A - OBJECTIVE TYPE QUESTIONS (11 MARKS):**
 - i. This section has 03 questions.
 - ii. Marks allotted are mentioned against each question/part.
 - iii. There is no negative marking.
 - iv. Do as per the instructions given.
7. **SECTION B – SUBJECTIVE TYPE QUESTIONS (14 MARKS):**
 - i. This section has 12 questions.
 - ii. A candidate has to do 6 questions.
 - iii. Do as per the instructions given.
 - iv. Marks allotted are mentioned against each question/part.

SECTION A: OBJECTIVE TYPE QUESTIONS

Q. 1	Answer any 3 out of the given 4 questions on Employability Skills (1 x 3 = 3 marks)	
i.	Paralanguage is a type of _____ communication. (A) Oral (B) Written (C) Non-verbal (D) Visual	(1)
ii.	A feedback that intends on pointing out what someone's doing poorly, helping them work on it and improving in the future, is known as _____ feedback. (A) Specific (B) Descriptive (C) Positive (D) Negative	(1)
iii.	The ability to control and guide oneself in the right direction in every walk of life is _____. (A) stress management (B) self-management (C) inherent (D) unachievable	(1)
iv.	Talking about what is bothering you or writing it down is a _____. (A) self-management technique (B) stress-management technique (C) way of adapting (D) self-awareness trait	(1)

Q. 2	Answer any 4 out of the given 6 questions (1 x 4 = 4 marks)	
i.	A company is developing an AI chatbot for customer service. Before they start, they need to define the scope of their project. What is the primary purpose of this step? (A) To collect customer feedback (B) To understand the goal and challenges of the chatbot (C) To train the chatbot using large datasets (D) To deploy the chatbot for customer interactions	(1)

ii.	A self-driven car needs to decide whether to stop suddenly, potentially causing an accident behind it, or to keep moving and risk hitting a pedestrian. Which ethical framework best applies here? (A) Virtue-Based Ethics (B) Rights-Based Ethics (C) Sector-Based Ethics (D) Utility-Based Ethics	(1)
iii.	Terms such as data cleaning, feature engineering and data visualization are related to _____. (A) data exploration (B) data acquisition (C) modelling (D) evaluation	(1)
iv.	Accepting user feedback is one of the important steps in the _____ phase. (A) evaluation (B) data exploration (C) deployment (D) data analysis	(1)
v.	Email filters are one of the most common applications of _____. (A) statistical data (B) data science (C) NLP (D) computer vision	(1)
vi.	_____ is a subset of AI that enables systems to learn automatically from experience or past information. (A) Deep Learning (B) Machine Learning (C) Computer Vision (D) Natural Language Processing	(1)

Q. 3	Answer any 4 out of the given 6 questions (1 x 4 = 4 marks)	
i.	Which of the following is an example of supervised learning? (A) Identifying patterns in an unlabelled dataset (B) Predicting a student's final grade based on past performance (C) Clustering customers based on their shopping behaviour (D) Recommending movies based on viewing history	(1)
ii.	A bank wants to predict whether a customer will be a defaulter on a loan based on past financial records. Which AI model is best suited for this task? (A) Regression Model (B) Classification Model (C) Clustering Model (D) Reinforcement Model	(1)
iii.	No adaptability and limited responses are the major limitation of _____ learning in AI. (A) Rule-based (B) Learning-based (C) Data-based (D) Neural network based	(1)
iv.	_____ is an unsupervised learning technique used to discover relationships and patterns between variables in large data sets. (a) Classification (b) Regression (c) Association rule learning (d) Clustering	(1)
v.	Which of the following is a key characteristic of deep learning models? (A) They require manual feature extraction before training (B) They are only used for structured numerical data (C) They cannot be applied to image and speech recognition tasks (D) They learn patterns automatically from large amounts of data	(1)
vi.	Assertion (A): Neural networks require labeled data for supervised learning. Reasoning(R): Labels help the model learn relationships between inputs and expected outputs. Answer by selecting the appropriate option given below: (A) Both A and R are true, and R explains A (B) Both A and R are true, but R does not explain A (C) A is true, but R is false (D) A is false, but R is true	(1)

SECTION B: SUBJECTIVE TYPE QUESTIONS

Answer any 2 out of the given 4 questions on Employability Skills (2 x 2 = 4 marks)

Answer each question in 20 – 30 words.

Q. 4	State four importances of feedback in a complete communication.	(2)
Q. 5	Raj is learning communication skills for his upcoming exams and he came up with a query in his mind as to how visual communication is different from non-verbal communication even though visual communication does not use verbal words. Explain the same to Raj and clear his confusion.	(2)
Q. 6	Communication barrier is anything that obstructs, distorts, or slows down the exchange of information between individuals or groups leading to misunderstandings, confusion, and ineffective communication. Explain any two barriers of effective communication in this regard.	(2)
Q. 7	Discuss two useful characteristics of self-management for students.	(2)

Answer any 3 out of the given 5 questions in 20 – 30 words each (2 x 3 = 6 marks)

Q.8	Shalini was going through a journal where she came to know that the AI systems require a huge statistical data set in order to take smart decisions. The term statistical data is very new for her and she is looking for an explanation of the same. Explain the term Statistical data with reference to the domains of AI to Shalini.	(2)
Q.9	Discuss two applications of computer vision.	(2)
Q.10	Value-based frameworks are said to focus on fundamental moral principles that guide AI decision-making. Explain any two value based ethical frameworks in AI in this context.	(2)
Q.11	Differentiate between Supervised learning, Unsupervised learning and Reinforcement learning with reference to their definition and goals associated.	(2)
Q.12	A neural network is a type of artificial intelligence (AI) model inspired by the way the human brain processes information. It is said to be designed in a way to recognize patterns, learn from data, and make decisions. Explain Convolution Neural network in this regard.	(2)

Answer any 1 out of the given 3 questions in 50 – 80 words (4 x 1 = 4 marks)

Q.13	Ajay struggles to maintain a healthy lifestyle due to a busy schedule he goes through due to his travel oriented job. He is facing health issues that is disrupting his contribution towards his job. Issues include irregular meals, lack of exercise, inconsistent sleep patterns, and high stress levels. Ajay is looking for an AI assistant that will be able to analyze his case through the 4Ws problem. Identify the 4Ws in Ajay's case and explain how they can be mapped with the problem.	(4)
Q.14	Pooja is asked to prepare a summer project on the ethical frameworks of AI and other related topics. She needs help regarding certain topics as she was strictly instructed not use AI chatbots in order to prepare the same. Explain ethical frameworks of AI to Pooja. State any three needs for ethical frameworks.	(4)
Q.15	Write a brief note on the following along with supporting diagrams – (i) Classification models (ii) Regression models	(4)