पूर्व -परिषदीय परीक्षा-2025-26 / PRE-BOARD EXAM-(2025-26)

कक्षा X / CLASS – X

TIME: 2 Hrs **विषय: / SUBJECT: ARTIFICIAL INTELLIGENCE (417)** **MM: 50**

General Instructions:
1. Please read the instructions carefully.
2. This Question Paper consists of 21 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 (5 + 16 =) 21 questions, a candidate has to answer (5 + 10 =) 15 questions in the allotted (maximum) time of 2 hours.
5. All questions of a particular section must be attempted in the correct order.
6. SECTION A - OBJECTIVE TYPE QUESTIONS (24 MARKS):
7. i. This section has 05 questions.
8. ii. Marks allotted are mentioned against each question/part.
9. iii. There is no negative marking.
10. iv. Do as per the instructions given.
11. SECTION B – SUBJECTIVE TYPE QUESTIONS (26 MARKS):
12. i. This section has 16 questions.
13. ii. A candidate has to do 10 questions.
14. iii. Do as per the instructions given.
15. iv. Marks allotted are mentioned against each question/part.

	SECTION A – OBJECTIVE TYPE QUESTIONS	
Q. No.	**Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)**	Marks
Q1.1	i. Which of the following is an example of **self-management**? (a) Procrastinating tasks (b) Setting daily goals and achieving them (c) Ignoring deadlines (d) Avoiding teamwork	1
Q1.2	ii. In MS Word, pressing **Ctrl + S** is used to: (a) Save a file (b) Print a file (c) Close the window (d) Open a file	1
Q1.3	iii. Assertion (A): Entrepreneurs take calculated risks. Reason (R): Risk-taking is not an essential quality for entrepreneurship. Options: (a) Both A and R are correct, R explains A (b) Both A and R are correct but R does not explain A (c) A is correct but R is incorrect (d) A is incorrect but R is correct	1
Q1.4	iv. Identifying **urgent vs. important** work is an example of: (a) Organising (b) Prioritising (c) Tracking (d) Delegating	1
Q1.5	v. Which of the following is an **environment-friendly practice**?	1

	(a) Excessive use of plastic bags (b) Using solar panels for electricity (c) Burning fossil fuels (d) Wasting water	
Q1.6	vi. While writing an email, **clarity and conciseness** reflect which communication skill? (a) Listening skills (b) Non-verbal skills (c) Writing skills (d) Speaking skills	1
	Answer any 5 out of the given 6 questions on Employability Skills (1 x 5 = 5 marks)	
Q2.1	i. Assertion (A): AI is used in weather forecasting. Reason (R): AI cannot process large data sets. (a) Both A & R correct, R explains A (b) Both A & R correct, R not explanation (c) A correct, R incorrect (d) A incorrect, R correct	1
Q2.2	ii. Which of the following is an **AI ethical concern**? (a) Using AI for medical diagnosis (b) AI replacing jobs (c) AI in fraud detection (d) AI in chatbots	1
Q2.3	iii. Which of the following best explains the role of Computer Vision in healthcare? (a) Detecting tumours from medical scans (b) Converting speech into text (c) Analysing purchase history for predictions (d) Translating languages	1
Q2.4	iv. In a neural network, the **last layer** is called: (a) Input layer (b) Hidden layer (c) Output layer (d) Middle layer	1
Q2.5	v. A word occurring very frequently in a dataset like “the”, “is” is called: (a) Rare word (b) Stop word (c) Unique word (d) Keyword	1
Q2.6	vi. Which of these is an example of **structured data**? (a) Social media posts (b) Audio recordings (c) Excel spreadsheet of student marks (d) Images	1
	Answer any 5 out of the given 6 questions on Employability Skills (1 x 5 = 5 marks)	
Q3.1	Which of the following **is NOT AI**? (a) Alexa voice assistant (b) Autopilot in airplanes (c) Washing machine with timer (d) Google Translate	1
Q3.2	Features collected during Data Science are called: (a) Instances (b) Labels (c) Attributes (d) Files	1
Q3.3	Which of these is an AI application in healthcare? (a) Online ticket booking (b) X-ray image analysis (c) Weather prediction (d) E-commerce cart system	1
Q3.4	Identifying faces in CCTV footage is an example of:	1

	(a) Classification (b) Object Detection (c) Sentiment Analysis (d) Translation	
Q3.5	Which type of chatbot can **learn and improve** over time? (a) Scripted bot (b) Smart bot (c) Rule-based bot (d) Static bot	1
Q3.6	Precision & Recall are combined in: (a) Confusion matrix (b) Accuracy (c) F1 Score (d) ROC Curve	1
	Answer any 5 out of the given 6 questions on Employability Skills (1 x 5 = 5 marks)	
Q4.1	AI systems that learn from **large datasets using multiple layers** are called: (a) Deep Learning (b) Data Mining (c) Machine Learning (d) Supervised Learning	1
Q4.2	Assertion (A): Training data is used to build the model. Reason (R): Testing data is used to check accuracy. Options: (a) Both A & R correct, R explains A (b) Both A & R correct, R not explanation (c) A correct, R incorrect (d) A incorrect, R correct	1
Q4.3	A **colour image** generally has how many channels? (a) 1 (b) 2 c) 3 (d) 4	1
Q4.4	Which NLP application detects customer feedback mood? (a) Machine Translation (b) Sentiment Analysis (c) Speech Recognition (d) Text Summarisation	1
Q4.5	Using the **same dataset** for training and evaluation causes: (a) Bias (b) Overfitting (c) Underfitting (d) Normalisation	1
Q4.6	Data used for **checking accuracy of a model** is called: (a) Raw data (b) Testing data (c) Training data (d) Noise	1
	Answer any 5 out of the given 6 questions on Employability Skills (1 x 5 = 5 marks)	
Q5.1	Google Translate belongs to which AI domain? (a) Computer Vision (b) Data Science (c) Natural Language Processing (d) Robotics	1
Q5.2	The smallest unit of an image is called: (a) Vector (b) Pixel (c) Byte (d) Frame	1

Q5.3	The **grammar rules** of a language define its: (a) Semantics (b) Syntax (c) Vocabulary (d) Sentiment	1
Q5.4	Creating word frequency from a text corpus is done using: (a) Tokenisation (b) Bag of Words (c) Stemming (d) Lemmatization	1
Q5.5	In AI evaluation, **high false positives** in a medical test mean: (a) Healthy patient predicted sick (b) Sick patient predicted healthy (c) All predictions are correct (d) None of these	1
Q5.6	Which of these is an AI application in **banking**? (a) Chatbots for customer queries (b) Washing machine sensors (c) IoT smart lighting (d) Alarm clock	1
	SECTION B – SUBJECTIVE TYPE QUESTIONS	
Q. No.	**Answer any 3 out of the given 5 questions on Employability Skills (2 x 3 = 6 marks)** **Answer each question in 20 – 30 words.**	Marks
Q6	Mention any two advantages of face-to-face communication?	2
Q7	Why is time management important for students?	2
Q8	What is phishing in computer terminology?	2
Q9	Give two qualities of a successful entrepreneur?	2
Q10	List two human practices that support sustainable development?	2
	Answer any 4 out of the given 6 questions in 20 – 30 words each (2 x 4 = 8 marks)	
Q11	Why do social media apps collect user data?	2
Q12	Which learning approach is used when the dataset has both input and output labels?	2
Q13	List two precautions while collecting data for an AI project .	2
Q14	Explain the term “Pixel Resolution” with an example. ?	2
Q15	Identify two stop words from the sentence: “Students are preparing for the annual school function today.”	2
Q16	Draw a confusion matrix if TP=30, TN=50, FP=20, FN=10. ?	2
	Answer any 3 out of the given 5 questions in 50– 80 words each (4 x 3 = 12 marks)	
Q17	Define Artificial Intelligence. Explain with an example from daily life?	4
Q18	List some advantages and disadvantages of Neural Network.	4
Q19	Differentiate between **Supervised and Unsupervised Learning** with examples. ?	4
Q20	What challenges may occur when training AI systems to understand human languages? Give two points ?	4
Q21	An AI model predicted student exam results: **Reality** **Pass** **Fail** Predicted Pass 40 15 Predicted Fail 10 35 (i) How many wrong predictions are there? (ii) Calculate **Precision**, **Recall**, and **F1 Score**.	4