

KENDRIYA VIDYALAYA SANGATHAN, DELHI REGION

Pre-Board –I Examination -2025-26 QUESTION PAPER

Class- XII

Subject: ARTIFICIAL INTELLIGENCE -843

SET-B

M.M.: - 50

Time:- 2 Hours

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):**
 - i. This section has 05 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 (26 MARKS):**
 - i. This section has 16 questions.
 - ii. A candidate has to do 10 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 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)	
i	A _____ statement is one which conveys the exact message that you are trying to convey to the other person. a. Consist b. Clear c. Both a) and b) d. None of the above	1
ii	If you are aware of your own values, likes, dislikes, strengths, and shortcomings as an individual. It denotes the fact that you are _____. a. Self-Confident b. Self-Control c. Self-Motivated d. Self-Aware	1
iii	Which of the following is characterized by an extreme feeling of self-importance? a. Narcissistic personality disorder b. Borderline personality disorder c. Dependent personality disorder d. None of the above	1
iv	Which of the following functions can be performed with the help of spreadsheets? i. Maintaining records ii. Creating videos iii. Analyzing data iv. Performing financial calculations v. Writing letters a. i, ii, iii, iv, v b. i, iii, iv c. i, iii, v d. iii, iv, v	1
v	The word 'entrepreneur' is derived from the _____ entrepreneur. a. French word b. Austrian Word c. Greek Wordd. None of the above	1
vi	A way we can contribute to the environment is by encouraging _____. a. Green Jobs b. Green Product c. Green Surface d. All of the above	1

Q. 2	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i	What is used in Descriptive Analytics to summarize past data? a. Decision Trees b. Root Cause Analysis	1

	c. Summary Statistics	d. Regression	
ii	A self-driving car identifying pedestrians, road signs, and vehicles simultaneously is performing: a. Classification only b. Object Detection c. Image Normalization d. Histogram Equalization		1
iii	What is the first step in Data Science Methodology? a. Data Understanding b. Business Understanding c. Data Collection d. Evaluation		1
iv	What does "Volume" refer to in the context of Big Data? a. The variety of data types b. The speed at which data is generated c. The amount of data generated d. The veracity of the data		1
v	Which neural network is best suited for image recognition? a. Feed forward Neural Network b. Convolutional Neural Network (CNN) c. Recurrent Neural Network (RNN) d. Generative Adversarial Network (GAN)		1
vi	Which of the following is an example of Generative AI? a. ChatGPT b. Decision Trees c. Linear Regression d. Naïve Bayes Classifier		1

Q. 3	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)		
i	Which pre-processing method improves visibility in low-contrast images? a. Noise Reduction b. Histogram Equalization c. Normalization d. Cropping		1
ii	Which of the following is a key characteristic of Big Data? a. Structured format b. Easily manageable size c. Predictable patterns d. Variety		1
iii	In K-Fold Cross Validation, what does the 'k' represent? a. The number of data features b. The number of algorithms used c. The number of data splits d. The number of training epochs		1
iv	What is back propagation? a. A technique to remove redundant neurons b. A method to adjust weights by minimizing errors c. A way to generate random predictions d. A visualization tool for deep learning models		1
v	What is the role of Large Language Models (LLMs) in AI? a. Creating and classifying text b. Sorting numerical datasets c. Translating programming languages d. Running optimization algorithms		1
vi	What is one reason data storytelling is considered compelling? a. Data on its own is always unclear b. Visuals alone are enough to drive action c. Data becomes engaging through narrative d. Data loses meaning when visualized		1

Q. 4	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)		
i	The main difference between classification and detection is: a. Classification works only on grayscale images b. Detection only identifies colours c. Classification labels the whole image, detection finds multiple objects d. Detection requires no algorithm		1

ii	Which technique is commonly used for analyzing large datasets to discover patterns and relationships? a. Linear regression b. Data mining c. Decision trees d. Naive Bayes	1
iii	Which metric is used to measure the proportion of correctly predicted positive instances in a classification model? a. Recall b. Precision c. F1-Score d. Accuracy	1
iv	What is the primary function of the input layer in a neural network? a. Store data permanently b. Process and classify data c. Receive and pass input data to the next layer d. Generate output predictions	1
v	Which of the following is NOT a step in effective data storytelling? a. Developing a narrative b. Creating complex visualizations c. Drawing attention to key information d. Choosing the right data	1
vi	Which of the following is NOT a common activation function? a. Sigmoid b. ReLU c. Tanh d. Linear Regression	1

Q. 5	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i	What is the primary challenge associated with the veracity aspect of Big Data? a. Handling large volumes of data b. Ensuring data quality and reliability c. Dealing with diverse data types d. Managing data processing speed	1
ii	Why is narrative important when presenting data? a. It reduces the need for visuals b. It helps explain the meaning behind the data c. It removes the need for data entirely d. It replaces statistical analysis	1
iii	Which type of analysis helps to identify the best course of action to achieve a desired outcome? a. Predictive Analytics b. Descriptive Analytics c. Diagnostic Analytics d. Prescriptive Analytics	1
iv	Which element is NOT essential in a good data story? a. Data b. Narrative c. Visuals d. Complex algorithms	1
v	What are the three main layers of a neural network? a. Input, Processing, Storage b. Input, Hidden, Output c. Training, Testing, Validation d. Nodes, Edges, Weights	1
vi	Which of the following is a key challenge in Computer Vision? a. High accuracy of CNNs b. Privacy and security concerns in surveillance c. Over 16 million colour combinations d. Availability of scanners and cameras	1

SECTION B: SUBJECTIVE TYPE QUESTIONS**Answer any 3 out of the given 5 questions on Employability Skills (2 x 3 = 6 marks)****Answer each question in 20 – 30 words.**

Q. 6	What are various elements of a communication cycle?	2
Q. 7	What is motivation in Employability Skills?	2
Q. 8	Define Relative referencing, Mixed referencing and Absolute referencing.	2
Q. 9	What are the different types of entrepreneurs?	2
Q. 10	What are the Benefits of Green Jobs?	2

Answer any 4 out of the given 6 questions in 20 – 30 words each (2 x 4 = 8 marks)

Q. 11	What is Data Science Methodology and why is it important?	2
Q. 12	What is image pre-processing and why is it necessary in computer vision?	2
Q. 13	Explain the difference between a feedforward neural network and a recurrent neural network.	2
Q. 14	How can AI-generated media be identified and prevented from spreading misinformation?	2
Q. 15	What are the 6V's of Big Data, and how do they provide a more holistic view of Big Data?	2
Q. 16	What role do Machine Learning algorithms play in Big Data analytics?	2

Answer any 3 out of the given 5 questions in 50– 80 words each (4 x 3 = 12 marks)

Q. 17	How can Computer Vision be used to build detailed 3D city models?	4
Q. 18	Why is "Model Validation" important, and what techniques are commonly used?	4
Q. 19	A company has developed a neural network model that performs exceptionally well on training data but fails on real-world test data. What problem is the model facing, and how can it be resolved?	4
Q. 20	Scenario: A digital marketing agency wants to automate content creation for its clients using Generative AI. They plan to use AI for generating promotional images, writing social media posts, and even creating short video advertisements. Question: What are some advantages and ethical concerns the agency should consider while using Generative AI for content creation?	4
Q. 21	What role do visuals play in data storytelling? Explain how combining visuals with narrative can help drive change or influence decision-making.	4