## KENDRIYA VIDYALAYA SANGATHAN, RAIPUR REGION
## SECOND PRE-BOARD EXAM (2025-26)
## SUBJECT – ARTIFICIAL INTELLIGENCE (417)
## MARKING SCHEME

| CLASS – X | M.M. 50 | TIME – 2Hrs. |
|---|---|---|

**General Instruction:**

1. Please read the Instruction carefully.

2. This Question paper consists of 21 questions in two 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 instruction given

   iv. iv. Marks allotted are mentioned against each question/part.

| SECTION - A : OBJECTIVE TYPE QUESTIONS | | |
|---|---|---|
| **Q.No.** | **QUESTIONS** | **MARKS** |
| Q.1 | **Answer any 4 out of the given 6 questions on Employability Skills (1x4=4 marks)** | |
| i. | (c) Organizational barrier | 1 |
| ii. | (d) Ctrl + Y | 1 |
| iii. | (a) Meditation | 1 |
| iv. | (d) Entrepreneur | 1 |
| v. | (c) Self-motivation | 1 |
| vi. | (b) Skills that help in promoting environmental sustainability and reducing ecological impact | 1 |
| **Q.2** | **Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)** | |
| i. | (b) Complete brightness (white) | 1 |
| ii. | (a) Ensuring algorithms are transparent and fair | 1 |
| iii. | (b) To measure physical quantities and convert them into signals | 1 |
| iv. | (a) Database tables | 1 |
| v. | (b) Evaluate model performance | 1 |
| vi. | (c) Machine Learning | 1 |
| **Q.3** | **Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)** | |
| i. | (d) He knows AI systems require software, hardware, and machines/devices to work together. | 1 |
| ii. | (b) Accuracy | 1 |
| iii. | (b) To treat words like "Data" and "data" as the same | 1 |
| iv. | (b) Three values representing red, green, and blue for each pixel | 1 |
| v | (a) Python | 1 |
| vi. | (b) Who | 1 |
| **Q.4** | **Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)** | |
| i. | (b) Tokenization | 1 |
| ii. | (d) All of the above | 1 |
| iii. | (a) Convolutional Neural Network | 1 |
| iv. | (c) Image classification | 1 |
| v. | (c) AI creating Unemployment | 1 |
| vi. | (b) Recall | 1 |
| **Q.5** | **Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)** | |
| i. | (c) Proper testing on data | 1 |
| ii. | (a) Both statements are correct | 1 |
| iii. | (a) Bag of Words | 1 |
| iv. | (b) Stemming | 1 |
| v. | (b) Artificial Intelligence | 1 |
| vi. | (b) False Negative (FN) | 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 | 1. Headache or fatigue (physical)<br>2. Anxiety or irritability (emotional) | 2 |
| Q.7 | 1. Organizing – arranging resources for the business.<br>2. Decision-making – making important business choices. | 2 |

| Q.8 | Visual communication is sharing information using images, charts, or diagrams.<br> Importance:<br>1. Makes information easy to understand.<br>2. Helps in remembering information better. | 2 |
|---|---|---|
| Q.9 | Open the Recycle Bin, select the file, and click Restore to return it to its original location. | 2 |
| Q.10 | SDG's are a set of 17 global goals adopted by the United Nations to achieve a better and sustainable future for all, addressing issues like poverty, health, education, and the environment. | 2 |
| | **Answer any 4 out of the given 6 questions in 20 – 30 words each (2 x 4 = 8 marks)** | |
| Q.11 | Machine Learning uses algorithms to learn from data and make predictions with manual feature extraction. Deep Learning is a subset of ML that uses neural networks to automatically learn from large amounts of data. | 2 |
| Q.12 | Supervised Learning is best for categorizing labeled data because it uses known input-output pairs to train the model, enabling accurate prediction of categories for new data. | 2 |
| Q.13 | Target advertisement is a marketing strategy that shows ads to specific groups of people based on their interests or behavior, helping businesses reach the right audience and increase sales. | 2 |
| Q.14 | Grayscale images use shades of gray and store a single intensity per pixel.<br>RGB images use red, green, and blue channels to represent full color for each pixel. | 2 |
| Q.15 | Stop words are common words in a language (like a, the, is, and, or) that are usually ignored or removed during text processing because they appear frequently and carry little meaningful information. | 2 |
| Q.16 | <table><tr><td></td><td>Predicted Positive</td><td>Predicted Negative</td></tr><tr><td>Actual Positive</td><td>250</td><td>50</td></tr><tr><td>Actual Negative</td><td>30</td><td>120</td></tr></table> | 2 |
| | **Answer any 3 out of the given 5 questions in 50– 80 words each (4 x 3 = 12 marks)** | |
| Q.17 | GPS (Global Positioning System) helps the app know the exact location of the rider and the driver in real-time.<br>AI (Artificial Intelligence) analyzes traffic, road conditions, and previous trip data to find the fastest or most efficient route.<br>Together, GPS provides the location data, and AI processes it to guide the driver along the best possible path, saving time and fuel. | 4 |

| Q.18 | Who? Residents, sanitation workers, and the local environment are affected. Wildlife and nearby water bodies also suffer from plastic waste. What? Excessive plastic waste is accumulating in streets, drains, and public spaces. It causes pollution, blocked drains, and unhygienic conditions. Where? Around streets, parks, local shops, and residential areas. In drains and open public spaces where waste is improperly disposed of. Why? Cause: People lack awareness about recycling and rely heavily on single-use plastics. Importance & Benefit: Solving this problem will create cleaner surroundings, protect water bodies and wildlife, and promote a healthier, sustainable community. | 4 |
|---|---|---|
| Q.19 | 1. Reinforcement Learning (RL): A type of machine learning where an agent learns to make decisions by interacting with an environment. The agent receives rewards for correct actions and penalties for wrong actions, and it learns to maximize the total reward over time. Example: A robot learning to navigate a maze or a game-playing AI learning to win chess. 2. Unsupervised Learning: A type of machine learning where the model learns patterns or structure from data without labeled outputs. It groups or organizes data based on similarities, differences, or hidden structures. Example: Customer segmentation, clustering news articles, or anomaly detection. | 4 |
| Q.20 | a)Sentence segmentation is the process of dividing a paragraph or text into individual sentences. Example: Input: "I love Python. It is easy to learn." After segmentation → ["I love Python.", "It is easy to learn."] b) Tokenisation is the process of breaking a sentence into smaller parts called tokens (usually words or symbols). Example: Input: "I love Python." After tokenisation → ["I", "love", "Python"] | 4 |
| Q.21 | Accuracy = 70% Precision = 78.95% Recall = 75% F1 Score = 76.92% | 4 |