SILVERZONE

Do not start attempting the test paper until you are asked to do so.

ENROLLMENT NUMBER: | | | | | | | | | | | | |

STUDENT NAME:

Class 7

Maximum Marks : 100
Duration : 40 Minutes
Total Questions : 35

Test Paper Type
CC

1st iAIO INTERNATIONAL ARTIFICIAL INTELLIGENCE OLYMPIAD 2025-2026

Instructions for the Candidates

1. For filling up information about yourself on the OMR sheet, you will be given additional ten minutes before the start of the examination.
2. Write your 12-digit iAIO Enrollment Number and your name on top of the Question Paper in the given space.
3. Do not forget to sign the OMR sheet. Also, write your Roll No. on the Question Paper Booklet, and do not take this home.
4. The Question Paper Booklet consists of 35 questions, divided into two sections.
5. Section-A: Artificial Intelligence (30 questions); Section-B: Scholar's Zone (5 questions).
6. Each question of Section-A carries 2.5 marks, and that of the Scholar's Zone carries 5 marks.
7. All the questions are compulsory, and there is no negative marking.
8. Use of a calculator or any other devices in the examination is strictly prohibited.
9. Choose only ONE OPTION as an answer.
10. BLUE/BLACK ball pen is preferred to darken the circle; however, in case of non-availability, an HB pencil can be used. Mark your choice of answer in the OMR sheet by darkening a circle, as shown below.

Section–A (Artificial Intelligence)

1. Which library is mainly used to handle large numerical data and perform fast calculations?

   A. Pandas B. TensorFlow
   C. NumPy D. Keras

2. A real estate AI predicts house prices based on area, number of rooms, and location. Which supervised learning task is this?

   A. Regression because the output is a continuous value
   B. Classification because the output is a category
   C. Clustering because it groups houses
   D. Reinforcement because the AI is rewarded for correct prices

3. The following question presents an assertion followed by a reason. Read carefully and choose the correct answer.

   Assertion (A): *Scikit-learn allows building and testing simple machine learning models.*

   Reason (R): *It is mainly used for creating and training deep neural networks.*

   A. Both A and R are true
   B. A is true, but R is false
   C. A is false, but R is true
   D. Both A and R are false

4. Which of the following is not an example of supervised learning?

   A. Predicting if a student passes or fails an exam
   B. Forecasting a stock's closing price
   C. Sorting emails into spam or not spam
   D. Grouping animals into species without labels

5. Consider the following Python code snippet:

```
score = 85
if score >= 90:
    print("Excellent")
elif score >= 75:
    print("Good")
else:
    print("Try Again")
```

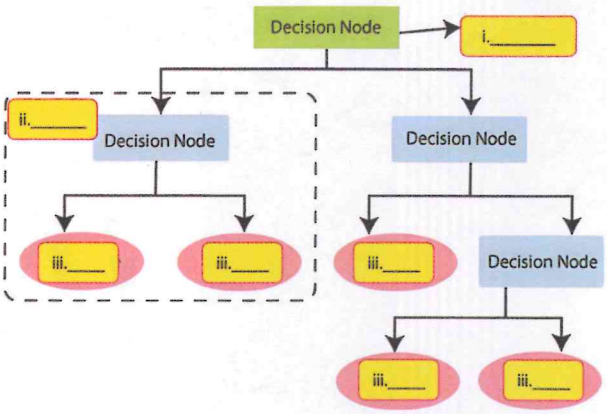
   What will be the output when this code is executed?

   A. Excellent B. Good
   C. Try Again D. An error will occur

6. Which of the following best describes the relationship between Artificial Intelligence (AI), Machine Learning (ML), and Deep Learning (DL)?

   A. AI, ML, and DL are three separate and unrelated fields of study.
   B. ML is a type of AI, and DL is a specialised type of ML.
   C. AI is a type of ML, and ML is a type of DL.
   D. DL is the broadest field, containing both AI and ML.

7. Based on the provided decision tree diagram, which option correctly identifies the parts labelled i, ii, and iii?



   A. i. Root Node, ii. Branch/Edge, iii. Subtree
   B. i. Split, ii. Subtree, iii. Branch
   C. i. Root Node, ii. Subtree, iii. Leaf Node
   D. i. Attribute, ii. Root Node, iii. Prediction

8. An NLP model is being trained to understand sentiment (positive and negative). Which of the following sentences would be the most difficult for the model to classify correctly?

   A. "I absolutely love this new video game, it's fantastic!"
   B. "The movie was a complete waste of my time and money."
   C. "Well, that was an interesting choice for a plot twist."
   D. "The weather today is so great, I like that it is sunny with a high of 25 degrees Celsius."

9. During training, which method attaches the features and labels to the model?

A. .predict() B. .fit() C. .score() D. .branch()

10. When the model correctly predicts the category of an unseen snack, this demonstrates:

A. It has learned to work well with new data

B. It is using too many extra features

C. It just grouped the snacks without knowing their names

D. It copied answers instead of learning

11. The following question presents an assertion followed by a reason. Read carefully and choose the correct answer.

Assertion (A): A CAPTCHA ("Completely Automated Public Turing test to tell Computers and Humans Apart") is designed to be easy for a human to solve but difficult for a bot.

Reason (R): This works because humans are generally better than current AI at tasks involving perception of distorted text, image recognition with context, and nuanced pattern matching.

Which of the following is true?

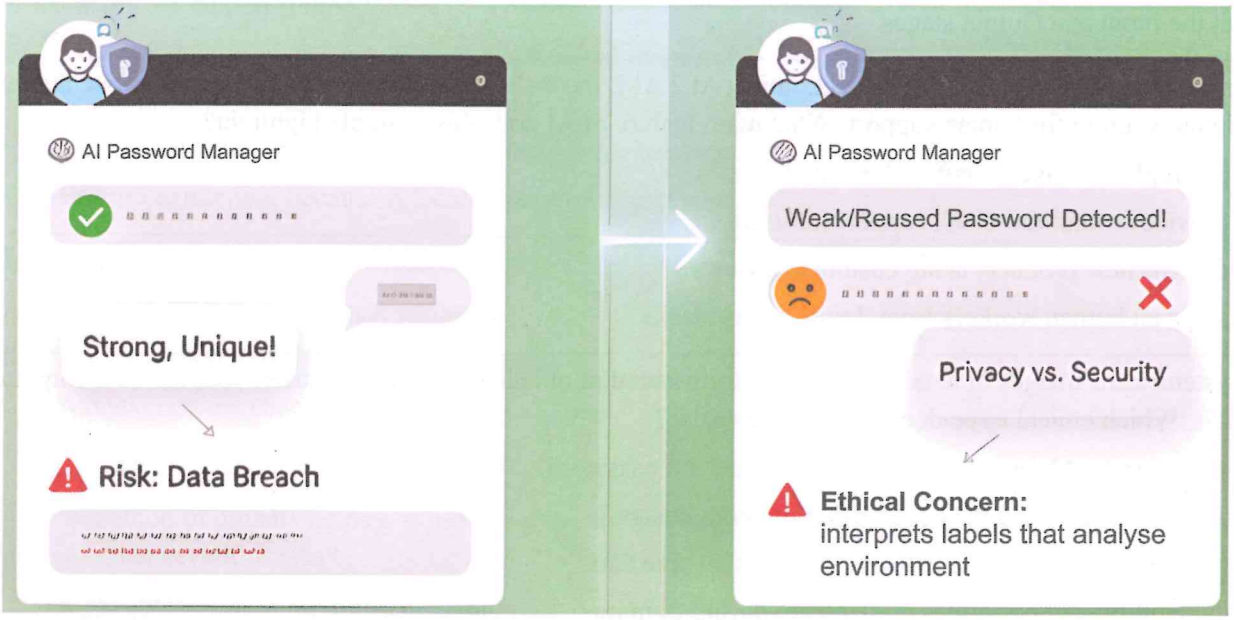
A. Both A and R are true, and R is the correct explanation of A.

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.

12. The image illustrates an AI Password Manager that identifies password strength and potential risks.



An "Ethical Concern" is highlighted, specifically "Privacy vs. Security." What core AI ethics dilemma is this scenario most directly addressing for users of such a system?

A. Algorithmic Bias: Whether the AI's recommendations unfairly favour certain types of passwords or users.

B. Transparency & Explainability: The difficulty in understanding why the AI flags a password or recommends a specific action.

C. Data Privacy vs. Utility/Security: The conflict between keeping user password data completely private and using that data to provide effective security analysis.

D. Accountability: Who is responsible if the AI makes a mistake and a user's password is breached or incorrectly flagged?

13. Why is it helpful to use different angles, lighting, and pen colours while taking photos of the digits for AI training?

A. To teach the AI which specific lighting condition is the best for taking pictures.

B. Because using a wide variety of photos helps the AI finish its training much faster.

C. It helps the model recognise digits in different real-world situations.

D. Because the AI cannot learn at all unless it has seen a digit in every possible colour.

14. In machine learning, the term 'epoch' refers to a specific part of the training process. What does one epoch signify?

A. A single photograph or piece of data used for model training

B. The final accuracy score the model achieves after training is complete

C. One complete pass through the entire training dataset during training

D. A category that the model is taught to recognise, such as "Number 3"

15. Considering the three-stage process outlined for how NLP works (Input, Processing, Output), which stage is crucial for transforming human language into a form that allows the computer to grasp its underlying message?

A. Input stage, because it's where the sentence is initially received.

B. Processing stage, because it involves analysis to extract meaning.

C. Output stage, because it generates the final human-readable response.

D. Both the Input and Output stages.

16. Avinash wants to return a gadget he bought online. At 2 AM, the website's AI chatbot helps him complete the return steps without waiting for human support. What main feature of AI does this example highlight?

A. AI can replace delivery staff and handle logistics

B. AI provides round-the-clock support for users

C. AI designs new products using customer reviews

D. AI stops all human workers from doing support tasks

17. An AI system scans images of handwritten passwords stored in old paper files to help users recover their forgotten credentials. Which ethical issue does this situation raise?

A. Transparency – AI must explain why it rejected the password.

B. Bias – AI may misread the handwriting of certain users.

C. Privacy – AI is accessing and learning from sensitive data.

D. Sustainability – AI consumes extra power during training.

18. When you ask a chatbot, "What's the weather today?", it replies, "It's sunny and 28°C." Which step of NLP ensures the chatbot understands your question correctly?

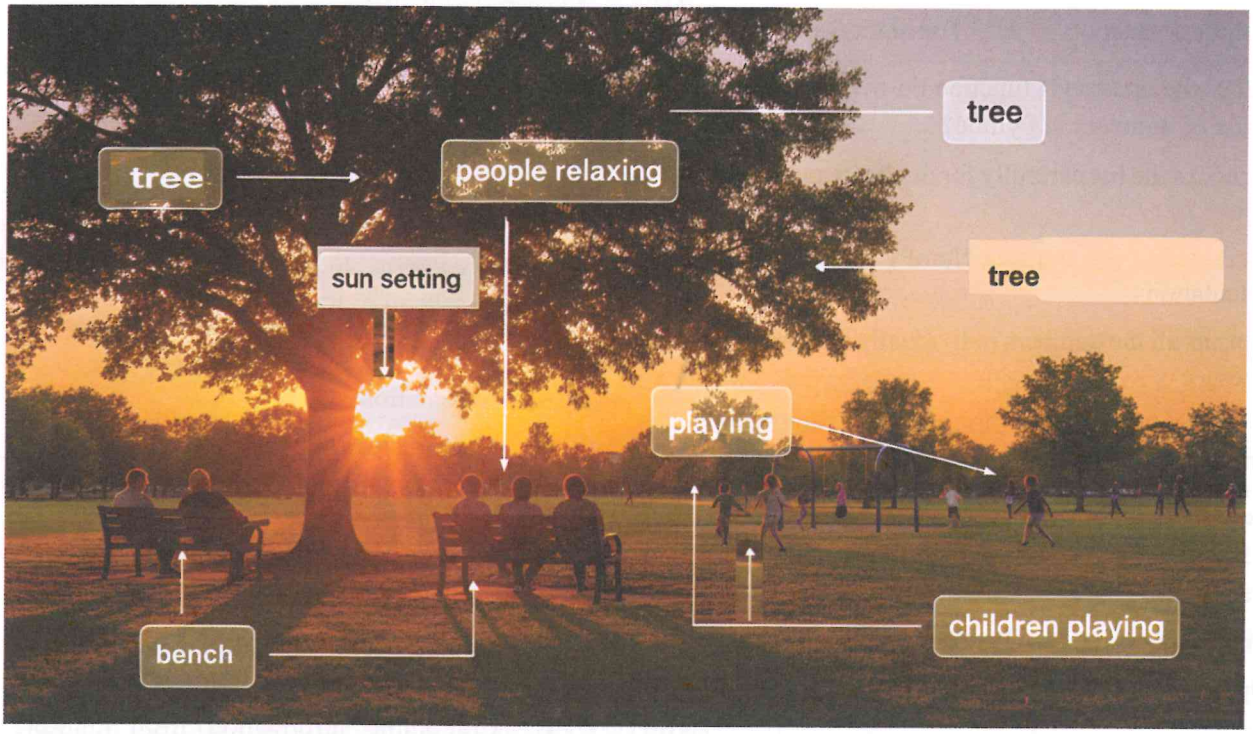
A. Output

B. Translation

C. Input

D. Processing

19. An AI camera identifies a "bench" and "tree" in a park image, but also notices people relaxing, children playing, and the sun setting.



What is this AI demonstrating?

A. Object recognition, because it names individual items only

B. Scene understanding, because it interprets the overall environment

C. Data annotation, because it labels the images for humans

D. Feature extraction, because it focuses only on object edges

20. In a decision tree, a leaf node corresponds to:

A. The feature with the highest variance

B. An unfinished branch requiring more data

C. A final class decision with no further questions

D. The root of a sub-tree used for pruning

21. Which method of organising data is best for showing a trend over a period of time, such as how a plant's height changes over several weeks?

A. A pie chart comparing different plant types

B. A simple table listing the daily measurements

C. A bar chart showing the final height of each plant

D. A line graph plotting height against each day

22. An AI project requires student test scores and their attendance records, which are stored in two separate files. Which Pandas application would be most useful here?

A. Feature Engineering

B. Filtering Data

C. Merging Datasets

D. Summarising Data

23. Which gadget relies least on NLP?

A. Pedometer B. Smart speaker

C. Helpdesk chatbot D. Translation site

24. What does the np.array() function do when used with a list of numbers in Python?

A. It checks the list carefully for duplicate numbers in it

B. It converts the list into a NumPy array for fast calculations

C. It prints all the numbers individually on separate lines

D. It automatically sorts all numbers in the list in order

25. Ankita has a table of student scores and wants to clean, filter, and organise it. Which library should she use?

A. Matplotlib B. Pandas

C. OpenCV D. SciPy

26. An AI system that can play chess at a grandmaster level but cannot recognise a cat in a photo is an example of:

A. Artificial General Intelligence (AGI)

B. Artificial Superintelligence (ASI)

C. Artificial Narrow Intelligence (ANI)

D. Self-Aware AI

27. Which of the following is not a layer in a typical neural network?

A. Input layer

B. Output layer

C. Hidden layer

D. Storage layer

28. You and your friend suggest copying information from the internet to use in your report. This action is primarily an example of:

A. Plagiarism

B. Automation

C. Machine learning

D. Creating computer viruses

29. What is "Feature Engineering" in the context of AI applications of Pandas?

A. Adding new features to the data to help the AI learn better

B. Combining information from multiple data sources

C. Selecting only the most relevant rows of data before training

D. Checking the data types of all the columns in the DataFrame

30. Which of the following pairs is incorrectly matched?

A. 

— Virtual Voice Assistant

B. 

— AI-powered Robot Vacuum

C. 

— Self-driving Car System

D. 

— AI Robot

31. During a classroom discussion on how AI recognises speech, four students shared their thoughts.

Riya says: *AI can recognise my voice even in noisy places.*

Mona says: *AI only works if there is no background noise at all.*

Raj says: *AI can recognise my voice even if I speak slowly or quickly.*

Mohit says: *AI will always fail if my speaking speed changes.*

Which of the following is correct?

A. Mona and Mohit are correct; Riya and Raj are incorrect

B. Riya and Raj are correct; Mona and Mohit are incorrect

C. All four students are correct

D. All four students are incorrect

32. Shina is writing a program using different data types. She writes:

- age = 13
- height = 1.55
- name = "Maya"
- is_student = True

Which of the following statements about her code is correct?

A. age should be a Float because numbers can have decimals

B. height should be an Integer because height is always a whole number

C. name is correctly a String because text is stored in quotes

D. is_student is incorrect because Boolean can store any text

33. Match the library to its main use:

Library		*Use*	
1.	Keras	a.	Create and train complex neural networks
2.	TensorFlow	b.	Offers an easy interface for deep learning
3.	NumPy	c.	Fast maths and numerical data
4.	Pandas	d.	Clean and organise tabular data

Choose the correct match:

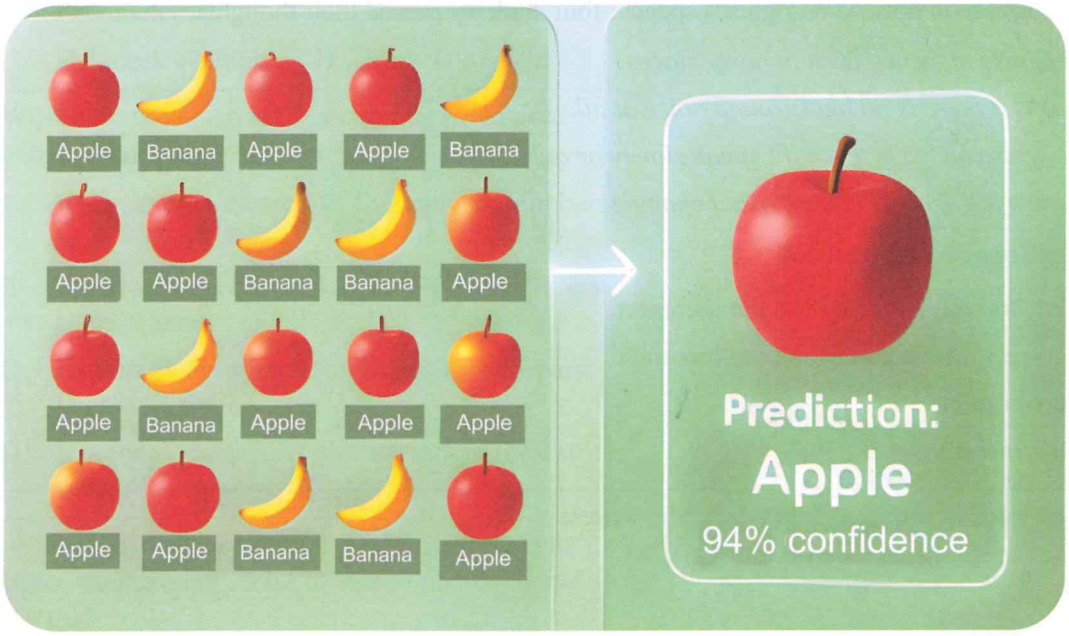
A. 1–b, 2–a, 3–d, 4–c

B. 1–a, 2–b, 3–c, 4–d

C. 1–a, 2–b, 3–d, 4–c

D. 1–b, 2–a, 3–c, 4–d

34. The image demonstrates a machine learning process.



What type of machine learning does this image best represent, and what is its primary outcome?

A. Unsupervised Learning: Discovering hidden structures in data.

B. Reinforcement Learning: Learning through trial and error to maximise rewards.

C. Supervised Learning: Making predictions or classifications based on labelled training data.

D. Deep Learning: Utilising neural networks to generate creative content.

35. Mona builds two models:

Model 1 predicts whether a patient has a disease (Yes/No).

Model 2 predicts the patient's blood sugar level.

Which statement is correct?

A. Model 1 is Regression, Model 2 is Classification

B. Model 1 is Classification, Model 2 is Regression

C. Both are Classification

D. Both are Regression