

# SCO INTERNATIONAL

## ARTIFICIAL INTELLIGENCE OLYMPIAD

### GRADE 5 OFFICIAL QUESTION PAPER

A ready official assessment document with answer key, explanations, and age-fit AI reasoning.

**Designed for Grade 5 AI learning pathways and aligned with SCO's global preparation, practice, reporting, and future-ready academic growth model.**

- age-fit AI literacy for primary-level learners globally
- conceptual understanding of AI, data, patterns, machine learning, safety, and real-life applications
- PDF-ready academic document style for website view and download

AI Basics	Machine Learning	Data Thinking	Patterns	Real-life AI
Safety	Projects	AI Games	Ethics	Future Skills

# SCO International Artificial Intelligence Olympiad – Class 5 Official Question Paper

Field	Details
Class	5
Exam	SCO International Artificial Intelligence Olympiad
Question Paper Set	S
Academic Year	2025-26
Total Questions	35
Time	60 minutes
Maximum Marks	40 (Q1-Q30: 1 mark each; Q31-Q35: 2 marks each)

## Candidate Details

<b>Name:</b> _____	<b>Registration ID:</b> _____
<b>School:</b> _____	<b>Contact No.:</b> _____
<b>Date:</b> _____	<b>Signature:</b> _____

## Guidelines for the Candidate

- Do not open this booklet until asked to do so.
- There are 35 multiple-choice questions. Each question has only one correct answer.
- Questions 1 to 30 carry 1 mark each. Questions 31 to 35 are Achievers Section questions and carry 2 marks each.
- There is no negative marking.
- Use only an HB pencil or blue/black ballpoint pen to mark the OMR sheet or answer sheet.
- No calculator, smart watch, mobile phone, or internet-enabled device is allowed.
- Read each situation carefully. AI questions may test pattern recognition, data reasoning, safe use, and real-life decision-making.
- Hand over the answer sheet to the invigilator at the end of the test.

## Section Pattern

Section	Question Nos.	Focus Area	Marks
A	1-10	Understanding AI and Machine Learning	10
B	11-20	Data Around Us, Pattern Recognition, and Sequence Thinking	10
C	21-30	Real-life AI, Communication, and Responsible Use	10
D	31-35	Achievers Section: Data Tasks and Simple AI Projects	10

# Question Paper

## Section A – Understanding AI and Machine Learning

**Q1.** What is Artificial Intelligence (AI)?

- A) A lunch box that stores answers
- B) A computer system that can use data to make helpful decisions or predictions
- C) A pencil that writes by itself
- D) A machine that never makes mistakes

**Q2.** Which one is the best example of AI in daily life?

- A) A normal calculator adding  $20 + 5$
- B) A printed dictionary
- C) A voice assistant understanding a spoken question
- D) A notebook with empty pages

**Q3.** What does machine learning mean for a computer?

- A) Learning from examples and data patterns
- B) Growing like a plant
- C) Reading every book without using data
- D) Switching off when confused

**Q4.** Why does an AI model need good training data?

- A) To decorate the screen
- B) To guess randomly
- C) To learn useful patterns and make better predictions
- D) To stop humans from checking its answers

**Q5.** Which statement about AI is most accurate for a Grade 5 learner?

- A) AI is always correct.
- B) AI can help, but humans should still check important answers.
- C) AI cannot use data.
- D) AI only works inside video games.

**Q6. Diagram-based question:** Look at the AI learning cycle. Which step should come after the AI makes a prediction and the result is checked?

### AI Learning Cycle



- A) Feedback is used to improve future predictions
- B) The data is deleted forever
- C) The computer stops learning
- D) The prediction becomes true automatically

**Q7.** A teacher gives an AI many labelled pictures of apples and bananas. Which type of learning is this closest to?

- A) Supervised learning
- B) Sleeping learning
- C) Forgetting learning
- D) Random learning

**Q8.** An app groups similar photos together without being told their names. What is the app mainly doing?

- A) Printing photos
- B) Unsupervised grouping or clustering
- C) Deleting all photos
- D) Writing a story

**Q9.** If an AI has learned only from pictures of small dogs, what problem may happen when it sees a very large dog?

- A) It may be less confident or may classify it incorrectly
- B) It will become a robot
- C) It will always answer correctly
- D) It will stop the internet

**Q10.** Which sentence best describes a model in machine learning?

- A) A rule or pattern the computer uses to make predictions
- B) A school uniform
- C) A type of pencil box
- D) A printed answer sheet only

## Section B – Data Around Us, Pattern Recognition, and Sequence Thinking

**Q11.** Which type of data is best for the value "12 years old"?

- A) Image data
- B) Number data
- C) Sound data
- D) Map data

**Q12. Data table question:** Using the training data shown, what label is the AI most likely to predict for the new item that is red and round?

### Training Data Example

Object	Colour	Shape	Label
Apple	Red	Round	Fruit
Carrot	Orange	Long	Vegetable
Ball	Blue	Round	Toy
New item	Red	Round	?

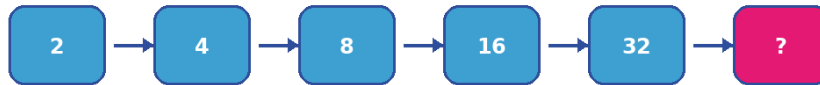
- A) Fruit
- B) Vegetable
- C) Toy
- D) Unknown because colour is never useful

**Q13.** A learner records these temperatures: 21°C, 23°C, 25°C, 27°C. If the pattern continues, what comes next?

- A) 28°C
- B) 29°C
- C) 30°C
- D) 31°C

**Q14. Pattern question:** Look at the number pattern in the image. Which number should replace the question mark?

**Pattern Recognition**



- A) 34
- B) 48
- C) 64
- D) 80

**Q15.** Which feature would be most useful for an AI to group school bags by colour?

- A) The colour of each bag
- B) The name of the student only
- C) The classroom floor number only
- D) The lunch menu

**Q16.** A dataset has 20 pictures of cats and 80 pictures of dogs. What is one possible issue?

- A) The dataset may be unbalanced
- B) The dataset is not data
- C) The dataset has no animals
- D) AI cannot use pictures

**Q17.** Which of these is a pattern recognition task?

- A) Finding repeated shapes in a picture sequence
- B) Sharpening a pencil
- C) Closing a book
- D) Washing a bottle

**Q18.** A student wants to know which fruit is most liked in class. Which data collection method is best?

- A) Ask only one friend
- B) Guess without asking anyone
- C) Survey all classmates and count responses
- D) Delete the question

**Q19.** An AI sees this sequence: A, C, F, J, O. The gaps are +2, +3, +4, +5. What is the next letter?

- A) T
- B) U
- C) V
- D) W

**Q20.** When an AI prediction is uncertain, what should a responsible user do?

- A) Accept it without thinking
- B) Check more information or ask a trusted adult/teacher
- C) Share it everywhere immediately
- D) Pretend the uncertainty is not important

## Section C – Real-life AI, Communication, and Responsible Use

**Q21. Smart city example:** In the smart traffic diagram, what does the AI do after cameras collect traffic data?

### Smart Traffic AI



- A) It compares the road data and adjusts signal timing
- B) It paints the road
- C) It turns all lights off
- D) It deletes the traffic data before using it

**Q22.** Which AI tool is most closely linked with communication?

- A) Predictive text suggesting the next word while typing
- B) A paper map
- C) A wooden chair
- D) A water bottle

**Q23.** A translation app gives a strange answer for an idiom. What is the most likely reason?

- A) Idioms depend on meaning and culture, not only word-by-word translation
- B) The phone battery is blue
- C) All languages are exactly the same
- D) Translation never uses AI

**Q24.** A movie app keeps recommending only superhero movies after you watched two superhero films. What risk does this show?

- A) Too much variety
- B) A recommendation bubble or narrow suggestions
- C) No use of data
- D) The app cannot store movies

**Q25.** Which is the safest action before using an AI app that asks for your home address?

- A) Share it quickly to get a better answer
- B) Ask a trusted adult and avoid sharing private information unnecessarily
- C) Post it in a public chat
- D) Give a friend's address instead

**Q26.** A chatbot answers a homework question. What is the best responsible use of the answer?

- A) Copy it without reading
- B) Use it to learn, then explain the idea in your own words
- C) Submit it as your own work without checking
- D) Hide it from the teacher

**Q27.** Why can biased data be harmful?

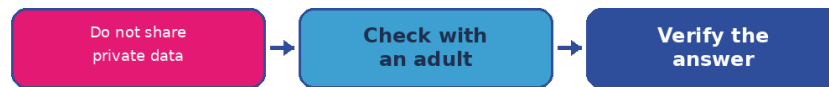
- A) It can make the AI treat some groups or cases unfairly
- B) It always makes the AI faster
- C) It improves fairness automatically
- D) It means the data has too many colours

**Q28.** A health app gives advice that seems serious. What should a child do?

- A) Follow it without telling anyone
- B) Ask a parent, guardian, or doctor instead of relying only on the app
- C) Share the advice with strangers
- D) Delete all school apps

**Q29. Responsible AI question:** Which action best matches the safety steps shown in the image?

### Responsible AI Safety



- A) Share your password with an AI game
- B) Check important AI answers and protect private information
- C) Believe every AI image is real
- D) Use AI to make fun of classmates

**Q30.** Who is responsible for the final decision when AI gives a suggestion in class?

- A) Only the AI
- B) The student and teacher using human judgement
- C) The keyboard
- D) The internet cable

## Section D – Achievers Section: Data Tasks and Simple AI Projects

**Q31. Achievers data task:** A simple fruit classifier uses two features: colour and shape. It has learned that red + round usually means apple, yellow + long usually means banana, and orange + round usually means orange. What should it predict for a red round fruit?

- A) Apple
- B) Banana
- C) Orange
- D) Book

**Q32. Achievers reasoning:** A classroom AI game predicts the next number using the rule "add 4 each time." The sequence is 6, 10, 14, 18. What is the prediction and why?

- A) 20, because it adds 2
- B) 22, because  $18 + 4 = 22$
- C) 24, because it doubles
- D) 18, because it repeats

**Q33. Achievers project evaluation:** An AI project correctly classifies 18 out of 20 test pictures. What does this result mainly show?

- A) It made no mistakes
- B) It was correct on most test pictures but still made 2 errors
- C) It did not use data
- D) It should never be improved

**Q34. Achievers project steps:** Which order best matches a simple AI project workflow?

#### AI Project Steps



- A) Ask a question -> collect data -> find patterns -> test and improve
- B) Test and improve -> ask a question -> delete data -> guess
- C) Collect data -> ignore patterns -> stop
- D) Guess -> publish -> ask a question later

**Q35. Achievers responsible AI:** A student builds an AI project using photos of classmates. Which practice is most responsible?

- A) Use everyone's photos without asking
- B) Get permission, avoid private data, and explain how the photos will be used
- C) Upload all photos publicly
- D) Hide the project from adults

## Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	B	2	C	3	A	4	C	5	B
6	A	7	A	8	B	9	A	10	A
11	B	12	A	13	B	14	C	15	A
16	A	17	A	18	C	19	B	20	B
21	A	22	A	23	A	24	B	25	B
26	B	27	A	28	B	29	B	30	B
31	A	32	B	33	B	34	A	35	B

## Detailed Answer Explanations

Q	Answer	Explanation
1	B	AI means a computer system designed to use data, rules, and patterns to perform tasks that usually need human thinking.
2	C	A voice assistant uses speech recognition and language understanding, which are common AI abilities.
3	A	Machine learning allows a computer to improve by finding patterns in examples instead of being told every single answer.
4	C	Training data is the set of examples used to teach a model. Better and more balanced data usually leads to better results.
5	B	AI can be very useful, but it may make mistakes or learn from incomplete data, so humans must use judgement.
6	A	Feedback helps a system compare its prediction with the correct result and improve next time.
7	A	When examples already have correct labels, the computer learns from labelled data. This is supervised learning.
8	B	Grouping similar items without labels is a simple idea behind unsupervised learning.
9	A	A model trained on a narrow set of examples may not generalize well to different examples.
10	A	A machine learning model stores learned patterns and uses them to make decisions or predictions.
11	B	Age is represented using numbers, so it is number data.
12	A	The new item shares the features red and round with the apple in the training data, so the closest likely label is Fruit.
13	B	The pattern increases by 2°C each step. After 27°C, the next value is 29°C.
14	C	Each number is doubled: 2, 4, 8, 16, 32, so the next number is 64.
15	A	To group bags by colour, the important feature is the colour value.
16	A	If one category has many more examples, the AI may become better at that category and weaker at the smaller category.
17	A	Pattern recognition means identifying repeated or meaningful arrangements in data.
18	C	A fair survey and count of responses gives more reliable data than guessing or asking only one person.
19	B	After O, add 6 letters: P(1), Q(2), R(3), S(4), T(5), U(6).
20	B	Uncertain predictions should be checked using reliable information and human judgement.
21	A	Smart traffic systems use sensor or camera data to make signal timing decisions that can reduce congestion.
22	A	Predictive text uses language patterns to suggest words, making it a communication-related AI tool.
23	A	Idioms often require context and cultural understanding, so simple word-by-word translation can be wrong.
24	B	Recommendation systems can become too narrow when they overuse past choices and do not include enough variety.

25	B	Children should protect private information and ask a trusted adult before sharing sensitive data.
26	B	AI can support learning, but students should understand and explain the work themselves.
27	A	If training data is unfair or incomplete, the AI may learn unfair patterns and produce unfair results.
28	B	AI health advice should not replace help from trusted adults or medical professionals.
29	B	Responsible AI use includes privacy protection, adult guidance, and checking AI-generated information.
30	B	AI provides suggestions, but humans remain responsible for learning, checking, and decision-making.
31	A	The features red and round match the learned apple pattern.
32	B	The rule is +4, so the next number after 18 is 22.
33	B	18 correct out of 20 means the model performed well but still made 2 mistakes, so improvement is possible.
34	A	A good AI project starts with a clear question, uses data, finds patterns, and then tests/improves the result.
35	B	Children should use consent, privacy, and transparency when working with personal data or images.