School Connect Online

SCO INTERNATIONAL OLYMPIAD

CLASS 7 ARTIFICIAL INTELLIGENCE OLYMPIAD SYLLABUS

A comprehensive syllabus guide for students, teachers, schools, and parents

Designed from Class 7 Artificial Intelligence syllabus pathways and aligned with SCO's platform flow for guided preparation, practice, reporting, and future-ready AI literacy.

- age-fit AI learning guidance for middle-school learners globally
- chapter-wise outcomes across machine learning, datasets, privacy, deepfakes, applications, and ethics
- preparation roadmap, classroom implementation ideas, and future-ready academic enrichment

Maths	English	Science	Mental Ability	Finance Knowledge
AI	Entrepreneurship	GK	Coding	Life Skills

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SCO International Artificial Intelligence Olympiad - Class 7 Syllabus

Official syllabus guide for student preparation, teacher planning, school implementation, and parent awareness.

Syllabus Purpose

The Class 7 Artificial Intelligence Olympiad introduces learners to machine learning foundations, supervised and unsupervised learning, data quality, privacy, verification of AI-generated content, and age-appropriate AI applications in healthcare, education, and the environment. The syllabus builds conceptual clarity, responsible use, and practical reasoning through MCQs, caselets, simple Python logic, and ethical discussions.

Chapter-wise Syllabus with Learning Outcomes

Ch.	Chapter Name	Small Note	Learning Outcome
1	**Machine Learning Basics**	Recognize what machine learning is, how it differs from fixed rules, and how examples help computers learn.	Identify ML examples in everyday tools; distinguish data, model, prediction, and feedback.
2	**Supervised Learning**	Understand labeled examples and prediction tasks such as classification and simple regression.	Explain labels, features, training data, and test predictions using simple school-level examples.
3	**Unsupervised Learning**	Understand how AI can group similar items without answer labels.	Recognize clustering, patterns, grouping logic, and when human interpretation is still needed.
4	**Datasets and Data Cleaning**	Learn why clean, complete, balanced, and relevant data is important for AI.	Spot missing values, duplicates, wrong labels, outliers, and simple data-quality problems.
5	**Train/Test, Accuracy, Overfitting and Artificial Intelligence**	Understand why models must be tested on unseen data and why accuracy alone may not be enough.	Explain train-test split, overfitting, underfitting, and basic evaluation mistakes.
6	**Data Collection Methods for AI**	Study surveys, sensors, observations, digital logs, and public datasets as AI data sources.	Compare manual, automated, explicit, and passive data collection methods.
7	**Privacy and Security for Responsible AI**	Learn consent, anonymization, encryption, hashing, access control, and safe data handling.	Choose privacy-preserving actions in classroom and real-world AI scenarios.
8	**AI in Deepfakes and its Verification**	Understand how synthetic media can mislead people and how verification reduces harm.	Identify red flags in manipulated media and explain the importance of source checking.

Ch.	Chapter Name	Small Note	Learning Outcome
9	**AI in Healthcare**	Explore age-appropriate AI uses in diagnosis support, triage, imaging, and patient monitoring.	Explain benefits, limitations, false positives, false negatives, and human oversight.
10	**AI in Education**	Understand personalized learning, recommendation systems, learning analytics, and AI tutors.	Identify how AI can support learning while protecting student fairness and privacy.
11	**AI for Environment**	Explore AI for pollution prediction, forest monitoring, weather risk, farming, and sustainability.	Connect AI data sources to environmental problem-solving and discuss reliability of predictions.
12	**Ethics and Case Studies in AI**	Apply fairness, transparency, accountability, data minimization, and safety principles.	Evaluate simple AI case studies and select responsible actions.

Preparation Roadmap

Foundation	Practice	Application	Achievers Readiness
Learn key terms: data, model, label, feature, prediction, privacy, bias.	Solve MCQs, identify examples, read small AI caselets, and review explanations.	Connect AI concepts to healthcare, learning, environment, deepfakes, and privacy scenarios.	Use reasoning to choose ethical, safe, and technically sound AI decisions.

Suggested Assessment Blueprint

Area	Suggested Weight
Machine Learning Basics and Workflow	**20%**
Data Collection, Cleaning, Privacy and Security	**25%**
AI Applications in Healthcare, Education and Environment	**25%**
Ethics, Deepfakes, Bias and Case Studies	**20%**
Achievers Integrated Reasoning	**10%**

Quick Glossary

Label	The correct answer or category used for supervised learning.
Feature	A useful input property, such as age, score, color, or number of clicks.
Clustering	Grouping similar items without pre-given labels.
Overfitting	When a model memorizes training data and performs poorly on new data.
Anonymization	Removing personal identifiers from data to protect privacy.
Fairness Audit	A check to see whether an AI system treats groups equitably.