



MOUNT CARMEL SCHOOL, CHANDIGARH

Computational Thinking (CT) & Artificial Intelligence (AI) Syllabus

Session: 2026-2027

Term – II, Class: VI

Modules:

Computational Thinking (CT)

Ch-4 'Data Handling and Presentation'

Ch-6 'Perimeter and Area'

Ch-7 'Fractions'

Ch-8 'Playing with Constructions'

Ch-9 'Symmetry'

Artificial Intelligence

Ch-3 'Simple Pattern Recognition and Decision Making'

Ch-4 'Ethics and Digital Responsibility'

Interdisciplinary Project Activity: (CT & AI+ Social Science) - October

Students will submit the activity to their Social Science Teacher.

Designing a Smart, Sustainable Community: Social Science through Computational Thinking and AI

Students will observe their local community, collect simple data, identify a problem, use computational thinking to analyse it, and explore how AI could help solve the problem.

Activity

Students choose one local issue, such as:

- * Waste management
- * Water conservation
- * Traffic congestion
- * Lack of greenery
- * Cleanliness
- * Saving electricity

They then complete these steps:

1. Observe & Collect Data

For 3–5 days, students record simple information.

Example: Waste collected in different areas of the school/community.

2. Apply Computational Thinking

Students:

- * Decompose: Break the problem into smaller parts.
- * Identify patterns: What type of waste is produced most?
- * Classify: Sort waste into different categories.
- * Create an algorithm: Write 5–6 steps for improving waste management.

Example:

Observe → Separate → Collect → Recycle → Reuse → Review

3. Introduce AI

Students answer:

“How could Artificial Intelligence help solve this problem?”

For example, they may propose an AI-enabled smart dustbin that identifies whether an item is wet or dry waste and guides people to put it in the correct bin.

They can create a simple flowchart:

Waste detected → AI identifies waste → Correct category → Appropriate bin

4. Social Science Connection

Students explain:

- * Why is this problem important for the community?
- * How does it affect people?
- * What role should citizens and local government play?
- * How can responsible use of resources improve the community?

5. Final Product

Students prepare a “Smart Community” poster/model/scrapbook containing:

- * Problem identified
- * Data collected
- * Bar graph
- * Computational-thinking steps
- * AI-based solution
- * Flowchart
- * 3 suggestions for citizens

Interdisciplinary Project Activity: (CT&AI + Hindi) - December

Students will submit the activity to their Hindi Teacher.

‘हिंदी शब्दों का ए आई जादू’

विद्यार्थी ए आई टूल द्वारा दिए गए शब्दों का विशेषण, पर्यायवाची और वाक्य बनाकर हिंदी व्याकरण और शब्दावली को ए आई की कार्यप्रणाली से जोड़ना सीखेंगे।

Interdisciplinary Project Activity: (CT&AI + I.T) - January

Students will submit the activity to their I.T Teacher.

Activity: AI Recycling Helper – Identifying Patterns & Classification

Objective: Students will learn how AI can identify and classify objects into different categories. They will understand how AI can help us sort waste and support recycling.

For example:

Plastic bottle → Plastic

Newspaper → Paper

Aluminium can → Metal

Banana peel → Organic waste

Activity: “Train Your AI Recycling Helper”

Step 1 – Make Four Waste Categories

Create four boxes labelled:

Category

Examples

Paper - Newspaper, cardboard, worksheet

Plastic-Plastic bottle, wrapper, container

Metal-Tin can, aluminium can

Organic-Fruit peel, vegetable waste

Step 2 – Show the Objects

Give students pictures or clean waste objects.

Ask them:

“Which category does this object belong to?”

Students place each object in the correct box.

Step 3 – Introduce AI

Explain:

“Just as we look at the features of an object and decide its category, AI can be trained to recognise features and classify objects.”

For example, an AI system may learn that:

A bottle has a particular shape and material.

A newspaper has a thin, flat appearance.

A banana peel has characteristics of organic waste.

Step 4 – AI Challenge

Students can ask an AI tool:

“I am a Class 6 student. Help me classify these objects into Paper, Plastic, Metal and Organic waste: newspaper, plastic bottle, aluminium can, banana peel, cardboard box, plastic wrapper. Give the answer in a table.”

Students compare the AI's classification with their own.

Step 5 – Find the Pattern

Ask students:

What features helped us classify the waste?

They may identify:

- Material
- Shape
- Texture
- Use

Final Creative Task: Students design an ‘AI Recycling Helper’ Poster.