

Lesson Plan: Control and Coordination (CBSE Class X 2026-27)

Teacher:

Class: X

Subject: Science (Subject Code - 086)

Unit II: World of Living (Unit Weightage: 25 Marks)

Chapter: 6 – Control and Coordination

Estimated Number of Periods: 12

1. Gist of the Lesson & Curricular Goals

- **Core Syllabus:** Tropic movements in plants; Introduction of plant hormones; Control and co-ordination in animals: Nervous system; Voluntary, involuntary and reflex action; Chemical co-ordination: animal hormones.
- **Educational Aim:** To encourage curiosity and connection with the real world by exploring how living organisms detect changes in their environment and respond to stimuli to survive, fostering scientific inquiry and evidence-based thinking.

2. Teaching-Learning Plan & Pedagogy

Key Concepts	Competencies (C) & Learning Outcomes	Teaching-Learning Activities (Pedagogy)	Assessment Strategies
Nervous System & The Neuron	C-3.1: Explains the role of cellular components making cell the functional basis of life processes. • <i>Outcome:</i> Students will detail the structure of a neuron and how electrical	• Visual Mapping: Draw and label a neuron on the board. • Roleplay Activity: Students model the transmission of an impulse, passing a "signal" (hand squeeze) to represent electrical	• [Demonstrate Knowledge - VSA]: <i>Identify</i> the parts of a neuron where information is acquired. • [Application - SA]: <i>Explain</i> the transmission of a nerve impulse across a chemical synapse.

	impulses convert to chemical signals at synapses.	flow, and tossing a soft ball across a gap to represent neurotransmitters crossing the synapse.	
Reflex Action & Human Brain	<p>C-4.2: Illustrates different levels of organisations of living organisms.</p> <p>• <i>Outcome:</i> Students will trace the pathway of a reflex arc and identify the functions of the forebrain, midbrain, and hindbrain.</p>	<p>• Flowcharting: Map the reflex arc (Receptor → Sensory Neuron → Spinal Cord → Motor Neuron → Effector).</p> <p>• Real-World Connection: Discuss knee-jerk reactions and touching hot objects. Analyze the protective role of the cranium and cerebrospinal fluid for the brain.</p>	<p>• [Application - SA]: <i>Illustrate</i> the path of a reflex arc with a flowchart.</p> <p>• [Analyze & Evaluate - Assertion-Reasoning]: <i>Evaluate</i> the evolutionary advantage of reflex arcs in animals.</p>
Coordination in Plants (Tropic Movements)	<p>C-8.2: Designs and implements a plan for scientific inquiry and observation.</p> <p>• <i>Outcome:</i> Students will distinguish between directional (tropic) and non-directional (nastic) movements in plants.</p>	<p>• Observation/Inquiry: Observe a potted plant placed near a window bending towards the light (Phototropism) and time-lapse videos of roots growing downward (Geotropism).</p> <p>• Discussion: Connect phototropism to the unequal distribution and shading effect of</p>	<p>• [Demonstrate Knowledge - Objective]: <i>Name</i> the type of movement exhibited by the roots of a plant towards water.</p> <p>• [Formulate & Analyze - Case-Based]: <i>Interpret</i> the growth mechanism of a pea plant tendril coiling around a support.</p>

		auxins in the plant stem.	
Plant & Animal Hormones	<p>C-4.2: Illustrates different levels of organisations.</p> <p>• <i>Outcome:</i> Students will identify major endocrine glands, their hormones, and feedback mechanisms.</p>	<p>• Compare & Contrast: Create a table separating plant growth promoters (Auxins, Gibberellins, Cytokinins) from inhibitors (Abscisic acid).</p> <p>• Case Studies: Discuss real-life endocrine disorders such as Goiter (iodine/thyroxine), Diabetes (insulin), and dwarfism/gigantism (growth hormone).</p>	<p>• [Demonstrate Knowledge - SA]: <i>List</i> three animal hormones and state their target organs.</p> <p>• [Application - LA]: <i>Explain</i> the feedback mechanism that regulates blood sugar levels in humans.</p>

3. Assessment Structure & Weightage

Assessments are strictly modeled on the CBSE 2026-27 Theory Question Paper Design (80 marks) :

- **Demonstrate Knowledge and Understanding (50%):** Assessed via questions asking students to *state, name, list, identify, define, suggest, describe, outline, and summarize* (e.g., listing plant hormones, identifying parts of the brain).
- **Application of Knowledge/Concepts (30%):** Assessed via questions asking students to *calculate, illustrate, show, adapt, explain, and distinguish* (e.g., explaining synaptic transmission, illustrating a reflex arc).
- **Formulate, Analyze, Evaluate and Create (20%):** Assessed via questions asking students to *interpret, analyze, compare, contrast, examine, evaluate, discuss, and construct* (e.g., evaluating hormone feedback loops, interpreting tropic movement scenarios).

4. Digital Integration & Portfolio Enrichment (Internal Assessment - 20

Marks)

- **Subject Enrichment (Practical Work - 5 Marks):** (Note: As there is no mandatory laboratory experiment prescribed for this specific chapter in the 2026-27 syllabus , enrichment will be assessed through an alternative hands-on activity). Students will construct an accurate, labeled 3D model of the human brain or a physical working model of a reflex arc using eco-friendly materials, fulfilling the requirement for experiential learning opportunities.
- **Digital Integration Strategy:** To reinforce complex anatomical concepts ahead of Periodic Assessments (5+5 Marks), utilize interactive digital modules (e.g., from the DIKSHA portal) to let students virtually explore the lobes of the human brain and trace the firing of neurons in real-time animations.
- **Portfolio Task (5 Marks):** Students will *examine* the concept of chemical coordination in their daily lives by interviewing a family member or researching the dietary importance of iodized salt. They will prepare a brief write-up connecting the intake of iodine to the functioning of the thyroid gland and the prevention of goiter, securely adding this real-world application to their academic portfolio.