



# B.K. BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS  
A CBSE DAY-CUM-BOYS' RESIDENTIAL SCHOOL

TERM-2 (2025-26)

**MARKING SCHEME SCIENCE ( SET-1I )**

Class: VII

Time: 3 hours

Date: 21/03/'26

Max Marks: 80

## SECTION- A BIOLOGY

1. c) Chlorophyll
2. c) Parasitic plants
3. c) Small intestine
4. c) Xylem
5. b) Phloem
6. c) Growth of potato from an eye
7. c) Stamen
8. d) Ovary
9. (a) *Both assertion and reason are true, and reason is the correct explanation of assertion.*

10. **Photosynthesis** is the process by which green plants prepare their own food using carbon dioxide and water in the presence of sunlight and chlorophyll.

Word Equation:

Carbon dioxide + Water → Glucose + Oxygen  
(in the presence of sunlight and chlorophyll)

11. **Xylem** – Transports water and minerals from roots to leaves.

Phloem – Transports food from leaves to other parts of the plant.

12. Digestion begins in the **mouth**, where food is chewed and mixed with saliva.

Food passes through the oesophagus into the stomach, where it is mixed with digestive juices.

In the small intestine, digestion is completed and nutrients are absorbed into the blood.

The large intestine absorbs water, and waste is removed from the body.

## 13. Asexual Reproduction

**Asexual reproduction** is reproduction in which only one parent is involved and the offspring are identical to the parent.

**Two methods:**

1. **Vegetative propagation** – Example: Potato (from eyes), Bryophyllum (from leaves).

2. **Budding** – Example: Yeast.

**OR**

## **Vegetative Propagation**

Vegetative propagation is a type of asexual reproduction in which new plants grow from roots, stems, or leaves.

### **Advantages:**

1. Plants grow faster.
2. Offspring are identical to parent plants.

## 14. a) **Photosynthesis**

b) Chlorophyll

c) The yellowish plant shows parasitic nutrition.

It depends on the host plant for food and water instead of making its own food.

**OR**

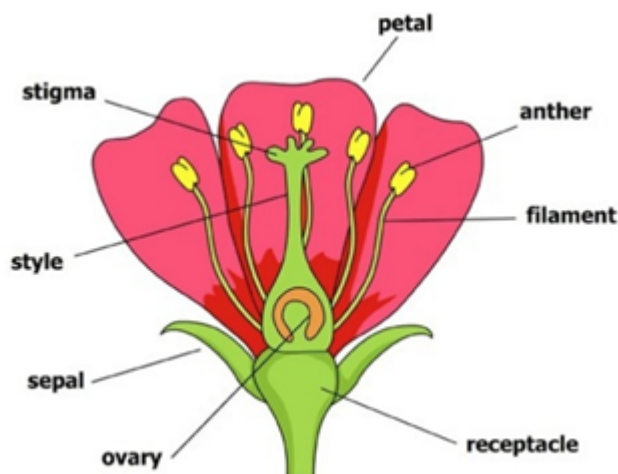
d) The plant is Cuscuta (Dodder/Amarbel).

One harmful effect: It absorbs nutrients from the host plant, weakening or even killing it.

## 15. **Structure of a Flower**

A flower has four main parts:

1. **Sepals** – Protect the flower bud.
2. **Petals** – Attract insects for pollination.
3. **Stamens (Male part)** –
  - **Anther** produces pollen grains.
  - **Filament** supports the anther.
4. **Pistil (Female part)** –
  - **Stigma** receives pollen.
  - **Style** connects stigma to ovary.
  - **Ovary** contains ovules which develop into seeds.



OR

### Sexual Reproduction in Flowering Plants

1. **Pollination** – Transfer of pollen from anther to stigma.
2. **Fertilization** – Fusion of male and female gametes inside the ovary.
3. **Seed formation** – Fertilized ovule develops into a seed.
4. **Fruit formation** – Ovary develops into fruit.

### SECTION- B CHEMISTRY

- |   |   |   |   |
|---|---|---|---|
| 16. (c) Sour  | 1 |   |   |
| 17. (c) Nitric acid   |   | 1 |   |
| 18. (c) a salt and water  |   |   | 1 |
| 19. (c) Organic   |   |   | 1 |
| 20. (c) Earthworm   |   | 1 |   |
| 21. (a) Plastic packets   | 1 |   |   |
| 22. (d) Afforestation.  | 1 |   |   |
| 23. C. A is true but R is false.  |   | 1 |   |
| 24. Definition: Neutralisation is a chemical reaction in which an acid and a base react with each other to produce salt and water, usually releasing heat in the process. |   |   |   |

Example:

When hydrochloric acid HCl reacts with sodium hydroxide NaOH, they form sodium chloride (common salt, NaCl and water H<sub>2</sub>O). 2

25. Definition: Mineral acids (also known as inorganic acids) are acids derived from inorganic compounds (minerals). They are typically stronger and more corrosive than organic acids.

Examples:

1. Hydrochloric acid: HCl
2. Sulphuric acid: H<sub>2</sub>SO<sub>4</sub> 3

**26. Attempt either option A or B.**

3

- A. Afforestation/Reforestation: Planting trees on a massive scale on barren land or replacing trees that have been cut down.
- Preventing Forest Fires: Creating fire breaks and educating the public to prevent accidental fires.
- Regulating Logging: Implementing strict laws to prevent illegal timber harvesting and promoting sustainable forestry practices.
- Creating Protected Areas: Establishing national parks, wildlife sanctuaries, and biosphere reserves where human activity is strictly controlled.

Community Involvement: Encouraging local communities to participate in forest management (e.g., social forestry programs).

**OR**

B. Definition: Consumers are heterotrophic organisms that cannot produce their own food and must feed on other organisms (plants or animals) to obtain energy

Three basic levels of consumers:

1. Primary Consumers (Herbivores): These animals eat plants directly. Example: Deer, rabbit, grasshopper.
2. Secondary Consumers (Carnivores): These animals eat primary consumers. Example: Frogs, small birds, snakes.
3. Tertiary Consumers (Top Carnivores): These are animals that eat secondary consumers and have few or no natural predators. Example: Lions, tigers, hawks.

27. (i) (a) Producers

(ii) (c) Frog

(iii) A food chain is a linear sequence of organisms through which energy is transferred. It starts with a producer (like a plant) and proceeds through a series of consumers (herbivores, then carnivores).

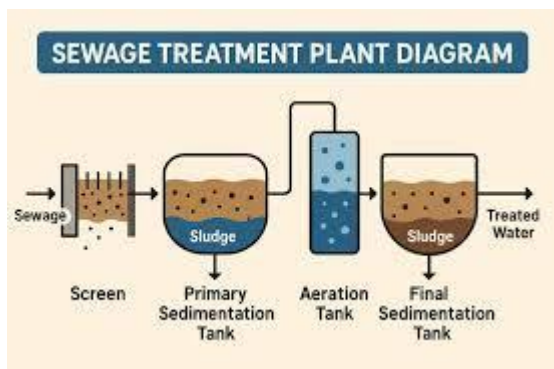
**OR**

(iii) A food web is a complex, interconnected network of multiple food chains within an ecosystem. Since most animals eat more than one type of food, food chains are rarely simple lines; they intersect and overlap to form a "web."

**28. Attempt either option A or B.**

5

A Wastewater Treatment Plant (WWTP) is a facility that cleans used water before releasing it back into the environment.



The process generally involves:

1. Bar Screens: Large objects (rags, sticks, cans, plastic) are removed.
2. Grit and Sand Removal: Water passes through tanks where sand and grit settle to the bottom.
3. Sedimentation: Water stays in a large tank where solid waste (sludge) sinks, and floats (scum) are skimmed off.
4. Aeration: Air is pumped into the water to help bacteria break down remaining organic matter.

Disinfection: The water is treated with chlorine or UV light to kill remaining harmful germs before release

**OR**

i) An underground network of large pipes that transport wastewater (sewage) from houses, industries, and public buildings to the treatment plant.

ii) Small, self-contained sewage treatment systems usually used for individual houses or rural areas where a public sewer network is unavailable. The tank holds waste, allowing solids to settle and bacteria to break them down before the liquid drains into the soil.

iii) Harmful effects of sewage on the environment:

- Water Pollution: Untreated sewage releases pathogens (causing diseases like cholera/typhoid) into water bodies.
- Eutrophication: High levels of nutrients (from detergents/waste) cause algae blooms, which suck oxygen out of the water, killing fish and other aquatic life.
- Soil Contamination: Leaking sewage can contaminate groundwater and soil, posing long-term health risks to the community.

### SECTION-C PHYSICS

29. A boy runs 200 m in 40 seconds. His speed is:

- (a) 5 m/s                      (b) 4 m/s                      (c) 6 m/s                      (d) 8 m/s                      1

The following question consists of two statements – **Assertion (A)** and **Reason (R)**. Answer these questions by selecting the appropriate option given below:

- A. Both A and R are true, and R is the correct explanation of A.  
B. Both A and R are true, and R is not the correct explanation of A.  
C. A is true but R is false.  
D. A is false but R is true.

30. **Assertion (A):** If a person walks 5 m east and then 5 m west, the displacement is 10 m.

**Reason (R):** Displacement is the total path covered.                      1

31. **Assertion (A):** A dry cell is a type of primary cell.                      1

**Reason (R):** A dry cell can be recharged many times.:

32. Differentiate between distance and displacement.                      2

33. How is a primary cell different from a secondary cell? Name any two devices that use each of these types of cells.                      2

### **OR**

Differentiate between conductors and insulators of electricity. List any two examples of each

34. Explain Rectilinear propagation of light with the help of activity.                      2

35. Describe three essential safety measures for handling electrical devices.                      3

36. (a) The physical quantity that represents the total length of the path travelled by an object  
(b).The SI unit of speed..  
(c). A car travels at a speed of 60 km/h for 3 hours. Find the distance travelled.                      3

37. What are convergent and divergent beams of light? Draw diagrams to support your answer.                      3

38. Read the passage below and answer the questions:

Aman was doing his science homework at night. He connected a cell, bulb, and switch with wires to make a simple electric circuit. When he turned the switch ON, the bulb did not glow.

He checked carefully and found that one of the wires was loose and not properly connected. Because of this, the path of electricity was broken. After fixing the wire, the bulb started glowing. Aman understood that when the path of current is broken, it is called an open circuit.

a). What is an open circuit?                      1

b). Name any two components of the circuit mentioned in the case study.                      1

c). What did Aman do to make the bulb glow? 2

or

d). What will happen if the switch is kept OFF in a circuit?

39. Attempt either option A or B. 5

A. Explain the Dark and faint shadow. Draw and label the ray diagram for formation of shadow

OR

B. Explain the characteristics of an Image Formed by a Pinhole Camera. Draw the ray diagram of pinhole camera.