

**Class X – Science**  
**MQP SET-5 : ANSWER KEY**

---

**SECTION A – MCQs (1×20)**

1. **C** – Acidic
  2. **B** – Virtual and erect
  3. **B** – Volt
  4. **C** – Pancreas
  5. **C** – Aluminium
  6. **C** – Sodium carbonate
  7. **C** – Between F and pole
  8. **C** – Copper
  9. **B** – Ovary
  10. **C** – Carbon dioxide
  11. **B** – Joule
  12. **C** – Iron
  13. **B** – Respiration
  14. **B** – Always positive
  15. **C** – Acetic acid
  16. **C** – Concave mirror
  17. **C** – Gene
  18. **C** – Waste management
  19. **D** – Copper
  20. **B** – Voltmeter
-

## SECTION B – Very Short Answer (2 marks each)

### 21. Pole of a spherical mirror

The **pole** is the midpoint of the reflecting surface of a spherical mirror.

---

### 22. Biodegradable waste

Biodegradable waste is waste that can be **decomposed by microorganisms**.

**Example:** Vegetable peels.

---

### 23. Hormone regulating growth

The hormone that regulates growth in humans is **Growth hormone**.

---

### 24. One use of sodium carbonate

Sodium carbonate is used for **softening hard water**.

---

### 25. Electric power

Electric power is the **rate at which electrical energy is consumed**.

$$P = VI$$

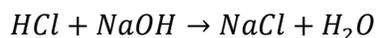
---

## SECTION C – Short Answer (3 marks each)

### 26. Neutralization reaction

A neutralization reaction is a reaction between an **acid and a base** to form **salt and water**.

**Example:**



### 27. Image formation by convex mirror

- Image is always formed **behind the mirror**

- Image is **virtual, erect and diminished**  
(Neat labelled ray diagram to be drawn in exam)
- 

### 28. Electric current

Electric current is the **rate of flow of electric charge** through a conductor.

$$I = \frac{Q}{t}$$

**SI unit:** Ampere (A)

---

### 29. Two differences between inhalation and exhalation

Inhalation	Exhalation
Air enters lungs	Air leaves lungs
Chest cavity expands	Chest cavity contracts

---

### 30. Reactivity series of metals

The reactivity series is a list of metals arranged in **decreasing order of reactivity**.  
It helps in **predicting displacement reactions** and **extraction of metals**.

---

### 31. Ecosystem

An ecosystem is a system formed by **interaction of living and non-living components**.

**Types:**

- Natural ecosystem
  - Artificial ecosystem
- 

## SECTION D – Long Answer (5 marks each)

### 32. Respiration in human beings

Respiration is the process by which **energy is released from food**.

Steps include:

- Breathing
- Exchange of gases
- Cellular respiration

Glucose is oxidised to release energy.

---

### 33. Electric power

Electric power is the **rate of doing electrical work**.

$$P = VI$$

Using Ohm's Law ( $V = IR$ ):

$$P = I^2R \text{ and } P = \frac{V^2}{R}$$

**SI unit:** Watt (W)

---

### 34. Pollination and fertilization

**Pollination:** Transfer of pollen grains from anther to stigma.

**Fertilization:** Fusion of male and female gametes to form zygote.

---

### 35. Properties and uses of metals

**Properties:**

- Malleable
- Ductile
- Good conductors

**Uses:**

- Electrical wires
  - Utensils
  - Construction and machinery
-

### 36. Scattering of light

Scattering of light is the **deflection of light in different directions** by small particles. The sky appears blue because **blue light is scattered more** due to its shorter wavelength.

---

## SECTION E – Case Based Question (7 marks)

### 37. Life Processes – Case Study

- a) Process releasing energy: **Respiration**
  - b) Gas taken in: **Oxygen**
  - c) Reason for increased breathing: To supply more oxygen to muscles for energy
  - d) Respiratory pigment: **Haemoglobin**
-