

Class 10 – Science

MQP SET-2: ANSWER KEY

SECTION A – MCQs (1×20)

1. **C** – 7
 2. **B** – Concave lens
 3. **C** – Ohm
 4. **B** – Cerebellum
 5. **C** – Aluminium
 6. **B** – NaHCO_3
 7. **B** – Virtual and erect
 8. **D** – Rubber
 9. **C** – Heredity
 10. **B** – Oxygen
 11. **C** – Neuron
 12. **B** – Mercury
 13. **B** – Respiration
 14. **D** – Watt
 15. **C** – Citric acid
 16. **C** – Convex mirror
 17. **C** – Chlorophyll
 18. **B** – Excretion
 19. **D** – Potassium
 20. **B** – Switch
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SECTION B – Very Short Answer (2 marks each)

21. Principal focus of a lens

The **principal focus** of a lens is the point on the principal axis where rays parallel to the axis **converge (convex lens)** or **appear to diverge (concave lens)** after refraction.

22. Non-biodegradable waste

Non-biodegradable waste is waste that **cannot be decomposed by microorganisms**.

Example: Plastic, glass.

23. Hormone secreted by thyroid gland

The thyroid gland secretes **thyroxine** hormone.

24. One use of baking soda

Baking soda is used as an **antacid** to relieve acidity.

25. Electric current

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

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

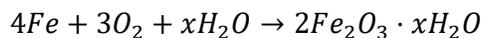
SECTION C – Short Answer (3 marks each)

26. Rusting of iron

Rusting is the formation of **reddish-brown iron oxide** on iron due to reaction with **oxygen and moisture**.

Conditions: Presence of air and water.

Reaction:



27. Concave mirror (object at infinity)

- Rays parallel to principal axis
 - After reflection, meet at **focus (F)**
 - Image is **real, inverted and highly diminished**
(Exam me neat ray diagram banani hai)
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28. Resistance

Resistance is the **opposition offered to the flow of electric current.**

SI unit: Ohm (Ω)

29. Two differences between arteries and veins

Arteries	Veins
Carry blood away from heart	Carry blood towards heart
Thick elastic walls	Thin walls

30. Corrosion and prevention

Corrosion is the **slow destruction of metals** due to reaction with air and moisture.

Prevention: Painting, galvanization, oiling.

31. Ecosystem

An ecosystem is a **functional unit** consisting of living and non-living components interacting together.

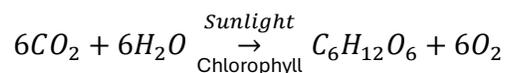
Components:

- Biotic
 - Abiotic
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SECTION D – Long Answer (5 marks each)

32. Photosynthesis

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



(Diagram compulsory in exam)

33. Ohm's Law

Ohm's Law states that **current through a conductor is directly proportional to the potential difference**, provided temperature remains constant.

$$V \propto I \Rightarrow V = IR$$

Graph of **V vs I** is a straight line.

34. Human heart

The human heart is a **four-chambered organ**:

- Right atrium
- Right ventricle
- Left atrium
- Left ventricle

Function: Pumps oxygenated and deoxygenated blood efficiently.

35. Properties of bases (any five)

1. Bitter in taste
2. Turn red litmus blue
3. Soapy to touch
4. Neutralize acids
5. Conduct electricity in aqueous solution

Example: NaOH, Ca(OH)₂

36. Laws of reflection

1. Angle of incidence = Angle of reflection
2. Incident ray, reflected ray and normal lie in the **same plane**

(Diagram compulsory)

SECTION E – Case Based Question (7 marks)

37. Electricity Case Study

- a) Law verified: **Ohm's Law**
 - b) Graph between V and I: **Straight line**
 - c) Slope of V-I graph represents **Resistance**
 - d) One factor affecting resistance: **Length of conductor**
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