

Class X – Science

MQP SET-4: ANSWER KEY

SECTION A – MCQs (1×20)

1. **C** – Basic
 2. **C** – Concave mirror
 3. **D** – Ohm
 4. **B** – Thyroxine
 5. **C** – Copper
 6. **B** – Calcium sulphate hemihydrate
 7. **B** – Real and inverted
 8. **D** – Alloy of tin and lead
 9. **C** – Pollination
 10. **A** – Oxygen
 11. **B** – Watt
 12. **C** – Zinc
 13. **B** – Fermentation
 14. **B** – Negative
 15. **B** – Formic acid
 16. **C** – Concave mirror
 17. **B** – Chlorophyll
 18. **C** – Excretion
 19. **C** – Aluminium
 20. **B** – Ammeter
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SECTION B – Very Short Answer (2 marks each)

21. Radius of curvature

The radius of curvature is the **distance between the pole and the centre of curvature** of a spherical mirror.

22. Non-biodegradable waste

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

23. Hormone for fight-or-flight response

The hormone responsible is **Adrenaline**.

24. One use of Plaster of Paris

Plaster of Paris is used for **making casts for fractured bones**.

25. Electric circuit

An electric circuit is a **closed conducting path** through which electric current flows.

SECTION C – Short Answer (3 marks each)

26. Role of acids in daily life

- Acids help in digestion (HCl in stomach)
 - Used in food preservation (vinegar)
 - Used in batteries and industries
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27. Concave mirror (object between F and C)

- Image formed **beyond C**
- Image is **real, inverted and enlarged**
(Exam me neat labelled ray diagram banani hai)

28. Ohm's Law

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

$$V = IR$$

29. Two differences between arteries and capillaries

Arteries

Carry blood away from heart

Thick walls

Capillaries

Connect arteries and veins

Very thin walls

30. Mineral ore

A mineral from which a metal can be **extracted economically** is called an ore.

Example: Bauxite (Aluminium)

31. Trophic level

Each step in a food chain where **energy is transferred** is called a trophic level.

Example: Producer, consumer.

SECTION D – Long Answer (5 marks each)

32. Digestion in small intestine

- Bile emulsifies fats
- Pancreatic enzymes digest carbohydrates, proteins and fats
- Digested food is absorbed by **villi**
- Nutrients enter bloodstream

33. Electric power

Electric power is the **rate of consumption of electrical energy**.

$$P = VI$$

Using Ohm's Law:

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

SI unit: Watt (W)

34. Female reproductive system

It consists of:

- Ovaries
- Fallopian tubes
- Uterus
- Vagina

Function: Production of ova and development of fetus
(Diagram compulsory in exam)

35. Properties and uses of bases

Properties:

- Bitter taste
- Turn red litmus blue
- Soapy in touch

Uses:

- Soap making
 - Neutralizing acids
 - Cleaning agents
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36. Dispersion of white light

Dispersion is the **splitting of white light into its constituent colours** when it passes through a prism due to different refractive indices.

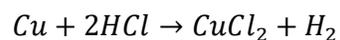
(Diagram compulsory)

SECTION E – Case Based Question (7 marks)

37. Metals and Non-Metals Case Study

a) Metal X: **Copper**

b) Chemical equation:



c) Type of reaction: **Displacement reaction**

d) One property of copper: **Good conductor of electricity**
