

Class X – Science

MQP SET-6: ANSWER KEY

SECTION A – MCQs (1×20)

1. **B** – Blue
 2. **B** – Concave lens
 3. **C** – Ampere
 4. **B** – Thyroxine
 5. **C** – Sodium
 6. **B** – Slaked lime
 7. **C** – At infinity
 8. **C** – Silver
 9. **B** – Anther
 10. **C** – Carbon dioxide
 11. **B** – Watt
 12. **C** – Copper
 13. **A** – Transpiration
 14. **B** – Negative
 15. **B** – Oxalic acid
 16. **C** – Convex mirror
 17. **C** – DNA
 18. **B** – Excretion
 19. **C** – Gold
 20. **C** – Rheostat
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SECTION B – Very Short Answer (2 marks each)

21. Focal length of a lens

The **focal length** of a lens is the distance between its **optical centre** and its **principal focus**.

22. Biodegradable waste

Biodegradable waste is waste that **can be decomposed by microorganisms** into simpler substances.

Example: Vegetable peels.

23. Hormone regulating blood sugar

The hormone that regulates blood sugar level is **Insulin**.

24. One use of bleaching powder

Bleaching powder is used for **disinfecting drinking water**.

25. Electric resistance

Electric resistance is the **opposition offered by a conductor to the flow of electric current**.

SI unit: Ohm (Ω)

SECTION C – Short Answer (3 marks each)

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

Prevention (any one):

- Painting
 - Galvanization
 - Oiling
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27. Image formation by concave lens

- Image formed **between optical centre and focus**
 - Image is **virtual, erect and diminished**
(Exam me neat ray diagram banana hai)
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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 functions of human heart

1. Pumps oxygenated blood to body parts
 2. Pumps deoxygenated blood to lungs
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30. Ore

An **ore** is a mineral from which a metal can be **extracted economically**.

Example: Bauxite (Aluminium)

31. Food web

A food web is a **network of interconnected food chains**.

Importance:

- Provides stability to ecosystem
 - Shows multiple feeding relationships
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SECTION D – Long Answer (5 marks each)

32. Nutrition in human beings

Human nutrition involves the following steps:

1. Ingestion
2. Digestion

3. Absorption
4. Assimilation
5. Egestion

Digestive enzymes break food into simpler substances which are absorbed in small intestine.

33. Relation between electric power, voltage and current

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

$$P = VI$$

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

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

SI unit: Watt (W)

34. Reproduction in flowering plants

- Occurs through **pollination and fertilization**
 - Pollen grain germinates on stigma
 - Male gamete fuses with female gamete
 - Zygote develops into seed and fruit
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35. Properties and uses of acids

Properties:

- Sour taste
- Turn blue litmus red
- Conduct electricity in aqueous solution

Uses:

- Batteries

- Food preservation
 - Cleaning agents
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36. Refraction through glass slab

Refraction is the **bending of light** when it passes from one medium to another due to change in speed.

Emergent ray is **parallel** to incident ray.

(Neat diagram compulsory)

SECTION E – Case Based Question (7 marks)

37. Control and Coordination Case Study

- a) Type of response: **Reflex action**
 - b) Part involved: **Spinal cord**
 - c) Pathway: **Reflex arc**
 - d) Advantage: Provides **quick response** to prevent injury
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