

CBSE Class 10 Science Sample Paper

Time: 3 hours | Maximum Marks: 80

General Instructions:

- All questions are compulsory.
- The question paper consists of 5 sections A–E.
- Use of calculator is not allowed.
- Wherever necessary, use $g = 9.8 \text{ m/s}^2$, take atomic masses: H=1, C=12, O=16, Na=23, Cl=35.5, Ca=40, S=32, Fe=56, Zn=65, Cu=63.5.

Section A: Multiple Choice Questions ($20 \times 1 = 20$ marks)

Which statement is correct about a neutralisation reaction?

- A) Exothermic; forms salt and water
- B) Endothermic; forms salt and hydrogen
- C) Exothermic; forms water and hydrogen
- D) Endothermic; forms salt only

The pH of a solution is 2. It is best described as

- A) weakly acidic B) strongly acidic C) neutral D) basic

Which has the highest electrical conductivity in aqueous solution?

- A) Glucose B) Urea C) HCl D) Ethanol

Which displacement reaction is feasible?

- A) $\text{Cu} + \text{ZnSO}_4 \rightarrow \text{CuSO}_4 + \text{Zn}$
- B) $\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$
- C) $\text{Ag} + \text{FeSO}_4 \rightarrow \text{Ag}_2\text{SO}_4 + \text{Fe}$
- D) $\text{Fe} + \text{MgSO}_4 \rightarrow \text{FeSO}_4 + \text{Mg}$

Which is NOT a characteristic of a chemical change?

- A) Formation of new substance
- B) Change is often irreversible
- C) Easily reversed by physical means
- D) Energy change accompanies the process

Which ratio is correct for a compound according to the law of constant proportions?

- A) Varies with source
- B) Varies with amount
- C) Fixed, definite mass ratio of elements
- D) Fixed only at STP

Which organelle is known as the powerhouse of the cell?

- A) Chloroplast B) Ribosome C) Mitochondrion D) Golgi apparatus

Guard cells regulate

- A) Photosynthesis B) Stomatal opening C) Translocation in phloem D) Water absorption by root hairs

In human respiration, most CO₂ is transported as

- A) Carbaminohemoglobin B) Dissolved CO₂ C) Bicarbonate ions D) CO₂ bound to plasma proteins

The focal length of a concave mirror is 20 cm. For a distant object, the image forms

- A) At C, inverted, diminished
- B) At F, real, inverted, highly diminished
- C) At 2F, real, same size
- D) Beyond C, inverted, magnified

A ray of light enters from air ($\mu=1$) to glass ($\mu=1.5$) at 30°. The refracted ray bends

- A) away from normal B) towards normal C) along the normal D) is totally internally reflected