

CBSE Class 10 Science MCQ Chapter 3 Metals And Non-Metals with Answers

Q1) Which of the following oxides of iron would be obtained on prolonged reaction of iron with steam?

- a) FeO
- b) Fe₂O₃
- c) Fe₃O₄
- d) Fe₂O₃ and Fe₃O₄

Correct Answer: Option (c)

Q2) A non-metal used to preserve food material is:

- a) Carbon
- b) Phosphorus
- c) Sulphur
- d) Nitrogen

Correct Answer: Option (d)

Q3) The arrangement for Copper, Tin, Lead and Mercury according to reactivity series is:

- a) Tin > Lead > Copper > Mercury
- b) Lead > Copper > Mercury > Tin
- c) Copper > Mercury > Tin > Lead
- d) Mercury > Tin > Lead > Copper

Correct Answer: Option (a)

Q4) The metals that float when treated with water are:

- a) Manganese and Sodium
- b) Sodium and Calcium
- c) Magnesium and Sodium
- d) Magnesium and Calcium

Correct Answer: Option (d)

Q5) Aluminium is used for making cooking utensils. Which of the following properties of aluminium are responsible for the same?

- (i) Good thermal conductivity
- (ii) Good electrical conductivity
- (iii) Ductility
- (iv) High melting point

- a) (i) and (ii)
- b) (i) and (iii)
- c) (ii) and (iii)
- d) (i) and (iv)

Correct Answer: Option (d)

Q6) When hydrochloric acid is added to barium hydroxide, a white-colored compound is formed. Which option gives the complete chemical reaction?

- a) $\text{HCl} + \text{Ba}(\text{OH})_2 \rightarrow \text{BaCl}_2 + 2\text{HOH}$
- b) $2\text{HCl} + \text{Ba}(\text{OH})_2 \rightarrow \text{BaCl}_2 + 2\text{HOH}$
- c) $2\text{HCl} + \text{Ba}(\text{OH})_2 \rightarrow \text{BaH}_2 + 2\text{HCl} + \text{O}_2$
- d) $\text{HCl} + 2\text{Ba}(\text{OH}) \rightarrow 2\text{BaCl}_2 + 2\text{HOH} + \text{O}_2$

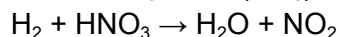
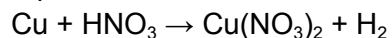
Correct Answer: Option (b)

Q7) What happens when a pellet of sodium is dropped in water?

- (a) It catches fire and forms oxide.
- (b) It absorbs heat and forms oxide.
- (c) It catches fire and forms hydroxide.
- (d) It absorbs heat and forms hydroxide.

Correct Answer: Option (c)

Q8) The chemical reaction between a piece of copper and nitric acid is given by the chemical equations,



What can be inferred from the chemical equation?

- a) Copper causes the oxidation of HNO_3 to form NO_2 .
- b) Hydrogen gas gets oxidized by HNO_3 to form water.
- c) Gas reacts with oxygen in the air to form water.
- d) Nitrate reacts with hydrogen to form NO_2 and H_2O .

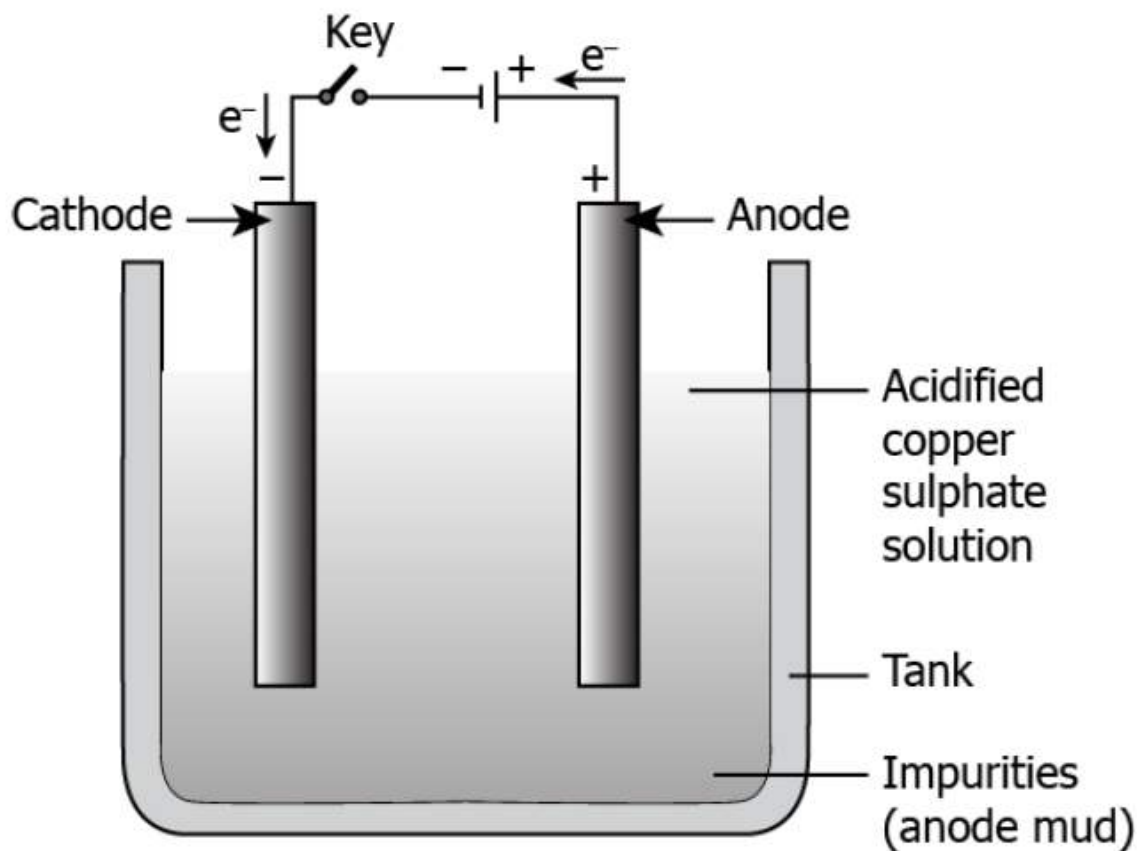
Correct Answer: Option (b)

Q9) Which option gives the process of extraction of mercury from its ore cinnabar?

- (a) cooling cinnabar in the presence of excess air
- (b) cooling cinnabar to convert it into mercuric oxide and then heating it
- (c) cinnabar to convert it into mercuric oxide and then heating it again
- (d) cinnabar in the presence of limited air to and then adding a small amount of water

Correct Answer: Option (c)

Q10) The image shows the electrolytic refining of copper.



Which option explains the process to obtain pure copper?

- (a) When current is passed, pure copper from anode deposits to the cathode.
- (b) When current is passed, pure copper from anode deposits in the electrolytic solution.
- (c) When current is passed, pure copper from the electrolytic solution deposits at the anode.
- (d) When current is passed, pure copper from the electrolytic solution deposits at the cathode.

Correct Answer: Option (d)

Q11) When calcium oxide is added to water, it completely dissolves in water without forming bubbles. What products are formed in this reaction?

- (a) Ca and H_2
- (b) Ca and H_2O_2
- (c) $Ca(OH)_2$
- (d) CaH_2

Correct Answer: Option (c)

Q12) A student studying the chemical properties of metals finds incomplete chemical reactions in his book, as shown:



Which option completes the reaction?

- (a) $\text{MgO} + \text{HNO}_3 \rightarrow \text{Mg}_3\text{N}_2 + 4\text{H}_2\text{O}$
- (b) $\text{MgO} + \text{HNO}_3 \rightarrow \text{Mg} + \text{NO}_2 + \text{O}_2$
- (c) $\text{MgO} + \text{HNO}_3 \rightarrow \text{Mg}(\text{OH})_2 + 2\text{NO}_2$
- (d) $\text{MgO} + \text{HNO}_3 \rightarrow \text{Mg}(\text{NO}_3)_2 + \text{H}_2\text{O}$

Correct Answer: Option (d)

Q13) Which of the following can undergo a chemical reaction?

- a) $\text{MgSO}_4 + \text{Fe}$
- b) $\text{ZnSO}_4 + \text{Fe}$
- c) $\text{MgSO}_4 + \text{Pb}$
- d) $\text{CuSO}_4 + \text{Fe}$

Correct Answer: Option (d)

Q14) Pick the statement which is correct about the non-metal:

- a) Br is an example of liquid non-metal.
- b) Graphite is a good conductor of electricity
- c) Most of the non-metal oxides are acidic
- d) All of these

Correct Answer: Option (d)

Q15) A student writes two incomplete chemical reactions.



Which option completes the reactions to form a balanced chemical equation?

- (a) X - $\text{P}_5\text{O}_4(\text{s})$; Y - $(\text{MgO})_2(\text{s})$
- (b) X - $4\text{P}_2\text{O}_5(\text{s})$; Y - $4\text{MgO}(\text{s})$
- (c) X - $\text{P}_4\text{O}_{10}(\text{s})$; Y - $2\text{MgO}(\text{s})$
- (d) X - $5\text{P}_4\text{O}_2(\text{s})$; Y - $\text{Mg}_2\text{O}_2(\text{s})$

Correct Answer: Option (c)

Q16) When a non-metal is allowed to react with water

- a) CO_2 gas is formed
- b) H_2 gas is formed
- c) Product formed depends on temperature
- d) No products are formed

Correct Answer: Option (d)

Q17) Aqua regia is a freshly prepared mixture of concentrated HNO_3 and concentrated HCl in the ratio of:

- a) 1:3 respectively
- b) 2:3 respectively
- c) 3:1 respectively
- d) 3:2 respectively

Correct Answer: Option (a)

