

**CLASS X – SCIENCE – CHAPTER 01**  
**CHEMICAL REACTIONS AND EQUATIONS**

Name:

Date:

**CHOOSE THE CORRECT OPTION FROM QUES 1 TO 15**

**Q01.** Copper displaces which of the following metals from its salt solution:

- (a)  $ZnSO_4$                       (b)  $FeSO_4$                       (c)  $AgNO_3$                       (d)  $NiSO_4$

**Q02.** The reaction  $H_2 + Cl_2 \rightarrow 2HCl$  represents:

- (a) Oxidation                      (b) Reduction                      (c) Decomposition                      (d) Combination

**Q03.** A substance which oxidizes itself and reduces other is known as

- (a) Oxidising agent                      (b) reducing agent                      (c) Both (a) and (b)                      (d) None of these

**Q04.** Some crystals of copper sulphate were dissolved in water. The colour of the solution obtained would be

- (a) green                      (b) red                      (c) blue                      (d) brown.

**Q05.**  $PbS$  reacts with ozone ( $O_3$ ) and forms  $PbSO_4$ . As per the balanced equation, molecules of ozone required for every one molecule of  $PbS$  is / are

- (a) 4                      (b) 3                      (c) 2                      (d) 1

**Q06.** Chemically rust is

- (a) Hydrated ferrous oxide                      (b) hydrated ferric oxide  
(c) only ferric oxide                      (d) none of these

**Q07.** Take about 5 ml of dil.  $HCl$  in a test tube and add a few pieces of fine granules to it. Which gas is evolved?

- (a) Chlorine                      (b) Hydrogen                      (c)  $HCl$                       (d) Nitrogen

**Q08.** Dissolving sugar is an example of

- (a) Physical change                      (b) Chemical change                      (c) Redox Reaction                      (d) None of these

**Q09.** In an electrolytic cell where electrolysis is carried, anode has:

- (a) Positive charge  
(b) Negative charge  
(c) Connected to negative terminal of the battery  
(d) None of these is correct.

**Q10.** In the reaction  $PbO + C \rightarrow Pb + CO$

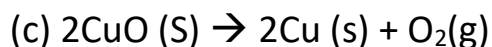
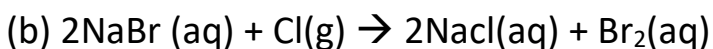
- (a)  $PbO$  is oxidised  
(b)  $C$  act as an oxidising agent  
(c)  $C$  act as a reduction agent  
(d) Reaction does not represent redox reaction

## DCA CLASSES

- Q11.** When dilute HCl is added to zinc pieces taken in a test tube
- (a) No change takes place
  - (b) the colour of the solution becomes yellow.
  - (c) pungent smelling gas is liberated
  - (d) small bubbles of  $H_2(g)$  appear on surface of zinc pieces
- Q12.** Which of the following reactions is not correct
- (a)  $Zn + CuSO_4 \rightarrow ZnSO_4 + Cu$
  - (b)  $2Ag + Cu(NO_3)_2 \rightarrow AgNO_3 + Cu$
  - (c)  $Fe + CuSO_4 \rightarrow FeSO_4 + Cu$
  - (d)  $Mg + 2HCl \rightarrow MgCl_2 + H_2$
- Q13.** Heat is evolved during
- (a) Endothermic Reaction
  - (b) Displacement Reaction
  - (c) Combustion Reaction
  - (d) Combination Reaction
- Q14.** Which of the following is not a balanced equation?
- (a)  $Fe + Cl_2 \rightarrow FeCl_3$
  - (b)  $Mg + CuSO_4 \rightarrow MgSO_4 + C_4$
  - (c)  $NaOH + HCl \rightarrow NaCl + H_2O$
  - (d)  $Zn + S \rightarrow ZnS$
- Q15.** The reaction between lead nitrate and potassium iodide present in aqueous solutions is an example of
- (a) Decomposition Reaction
  - (b) Displacement Reaction
  - (c) Double Displacement Reaction
  - (d) Neutralisation Reaction
- Q01.** What happens chemically when quick lime is added to water?
- Q02.** Why is a combustion reaction an oxidation reaction?
- Q03.** Why are food particles preferably packed in aluminium foil?
- Q04.** What happens to lime water when  $CO_2$  gas is bubbled through it in excess?
- Q05.** Why does not silver evolve hydrogen on reacting with dil.  $H_2SO_4$ ?
- Q06.** Why do diamond and graphite, the two allotropic forms of carbon evolve different amounts of heat on combustion?
- Q07.** What is the sole oxidizing agent in a reaction?
- Q08.** Why cannot a chemical change be normally reversed?
- Q09.** What are neutralization reactions? Why are they named so? Give one example?
- Q10.** Give one example each of
- (i) Thermal decomposition
  - (ii) Electrolytic decomposition
  - (iii) Photo decomposition
- Q11.** Identify the type of chemical reaction
- (i)  $A + B \rightarrow C$
  - (ii)  $AD + CD \rightarrow AD + CB$
  - (iii)  $A + B \rightarrow C$
  - (iv)  $A + BC \rightarrow AC + B$
- Q12.** Identify the substance oxidized and reduced in the reaction.
- $CuO(s) + Zn(s) \rightarrow ZnO(s) + Cu(s)$

## DCA CLASSES

**Q13.** Identify the type of reaction in the following



**Q14.** A student dropped few pieces of marble in dilute hydrochloric acid contained in a test tube. The evolved gas was then passed through lime water. What change would be observed in lime water? Write balanced chemical equation for both the change observed?

**Q15.** In the reaction:  $\text{MnO}_2 + 4\text{HCl} \rightarrow \text{MnCl}_2 + 2\text{H}_2\text{O} + \text{Cl}_2$

(a) Name the substance oxidised.

(b) Name the oxidising agent.

(c) Name the reducing agent and the substance reduced.

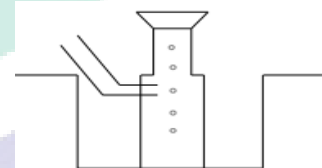
**Q16.** A metal is heated with dil.  $\text{H}_2\text{SO}_4$ . The gas evolved is collected by the method shown in the figure:

(a) Name the gas.

(b) Name the method of collection of gas.

(c) Is the gas soluble or insoluble in water?

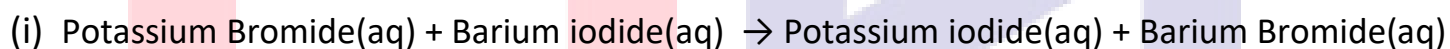
(d) Is the gas lighter or heavier than air?



**Q17.** (a) Define Rusting

(b) Why do you apply paint on iron articles?

**Q18.** Write the balanced reactions for the following



**Q19.** The reaction is given by  $\text{Zn} + \text{H}_2\text{SO}_4 \rightarrow \text{ZnSO}_4 + \text{H}_2$

(i) Write the ionic equation for the reaction

(ii) The ionic equations can be represented by two half equations. Write these equations

(iii) Explain why this is a redox reaction.

**Q20.** You are given with

(a) Iron Nails

(b)  $\text{CuSO}_4$  solution

(c)  $\text{BaCl}_2$

(d) Cu powder

(e) Ferrous sulphate crystal

(f) Quick lime.

Make five reactions that can take place from these materials.

## DCA CLASSES

- Q21.** When you mix solutions of lead (II) nitrate and potassium iodide,  
(a) What is the colour of the precipitate formed? Name the compound evolved?  
(b) Write a balanced chemical reaction?  
(c) Is this a double displacement reaction?
- Q22.** Transfer the following into chemical equations and balance them.  
(i) Hydrogen gas combines with nitrogen to form ammonia.  
(ii) Hydrogen sulphide gas burns in air to give water and Sulphur dioxide.  
(iii) Potassium metal reacts with water to give potassium hydroxide and hydrogen gas.
- Q23.** Write three equations for decomposition reaction where energy is supplied in the form of heat, light and electricity?
- Q24.** With the help of an activity show that iron is more reactive than copper?
- Q25.** Balance the equations  
(i)  $\text{HNO}_3 + \text{Ca}(\text{OH})_2 \rightarrow \text{Ca}(\text{NO}_3)_2 + \text{H}_2\text{O}$   
(ii)  $\text{NaCl} + \text{AgNO}_3 \rightarrow \text{AgCl} + \text{NaNO}_3$   
(iii)  $\text{BaCl}_2 + \text{H}_2\text{SO}_4 \rightarrow \text{BaSO}_4 + \text{HCl}$