

Chemical Reactions and Equations

1. Introduction, Chemical Reaction and Balancing

Q1. (a) $\text{Ca}(\text{OH})_2$ + (b) HCl \rightarrow (c) CaCl_2 + (d) H_2O

the value of a, b, c, d are

- (A) 1, 2, 1, 2
- (B) 1, 2, 1, 1
- (C) 1, 2, 2, 1
- (D) 2, 1, 1, 1

Correct Answer: **(A)**

Level: **Easy**

Tagging: **Applying**

Q2. A balanced chemical equation for any chemical reaction obeys the law of conservation of mass. Dinitrogen pentoxide (N_2O_5) decomposes at 200°C to give nitrogen dioxide (NO_2) and oxygen (O_2). The coefficients of N_2O_5 , NO_2 , and O_2 to form a balanced chemical equation for the decomposition of N_2O_5 are respectively

- (A) 1, 2, and 4
- (B) 1, 2, and 2
- (C) 2, 2, and 1
- (D) 2, 4, and 1

Correct Answer: **(D)**

Level: **Easy**

Tagging: **Applying**

Q3. Which compound is formed when the calcium oxide reacts with water?

- (A) Calcium carbonate
- (B) Calcium hydroxide
- (C) Calcium
- (D) Oxygen

Correct Answer: **(B)**

Level: **Easy**

Tagging: **Remembering**

Q4. $2\text{Na} + 2\text{H}_2\text{O} \rightarrow 2\text{NaOH} + \text{H}_2\uparrow$ in this what type of chemical reaction is

- (A) heating
- (B) displacement
- (C) oxidation
- (D) reduction

Correct Answer: **(B)**

Level: **Easy**

Tagging: **Understanding**

Q5. $2\text{NH}_4\text{Cl}$ in this how many molecules of takes part in any reactions?

- (A) 4
- (B) 5
- (C) 2
- (D) 1

Correct Answer: **(C)**

Level: **Easy**

Tagging: **Understanding**

Q6. A balanced chemical equation

- (A) has the same number of atoms of every element on both sides.
- (B) obeys the law of conservation of mass.
- (C) represents a skeletal equation.
- (D) both (A) and (B).

Correct Answer: **(D)**

Level: **Easy**

Tagging: **Remembering**

Q7. A burning candle brought near oxygen gas

- (A) burns with a pop sound
- (B) burns more brightly
- (C) explodes
- (D) extinguishes

Correct Answer: **(B)**

Level: **Easy**

Tagging: **Remembering**

Q8. A magnesium ribbon be cleaned before the burning in air due to

- (A) Remove the layer of magnesium hydride.
- (B) Remove the layer of magnesium oxide.
- (C) Remove the layer of magnesium sulphide.
- (D) Remove the layer of rust.

Correct Answer: **(B)**

Level: **Easy**

Tagging: **Remembering**

Q9. A metal which burns in air with a dazzling white light is

- (A) manganese
- (B) magnesium
- (C) sodium
- (D) potassium

Correct Answer: **(B)**

Level: **Easy**

Tagging: **Remembering**

Q10. Acid + Base \rightarrow Salt + Water. This reaction is known as

- (A) Neutralization reaction
- (B) decomposition reaction
- (C) precipitation reaction
- (D) displacement reaction

Correct Answer: **(A)**

Level: **Easy**

Tagging: **Applying**

Q11. Combustion of coal in insufficient oxygen results in the formation of

- (A) carbon dioxide
- (B) carbon monoxide
- (C) ozone

(D) lead

Correct Answer: **(B)**

Level: **Easy**

Tagging: **Remembering**

Q12. Give the ratio of hydrogen and oxygen in the volume of H_2O .

(A) 1 : 2

(B) 3 : 4

(C) 6 : 7

(D) 2 : 1

Correct Answer: **(D)**

Level: **Easy**

Tagging: **Understanding**

Q13. In The equation - $\text{Cu} + x\text{HNO}_3 \rightarrow \text{Cu}(\text{NO}_3)_2 + y\text{NO}_2 + 2\text{H}_2\text{O}$

The values of x and y are-

(A) 3 and 5

(B) 8 and 6

(C) 4 and 2

(D) 7 and 1

Correct Answer: **(C)**

Level: **Easy**

Tagging: **Evaluating**

Q14. In The equation – $\text{Cu} + x\text{HNO}_3 \rightarrow \text{Cu}(\text{NO}_3)_2 + y\text{NO}_2 + 2\text{H}_2\text{O}$

The values of x and y are

(A) 3 and 5

(B) 8 and 6

(C) 4 and 2

(D) 7 and 1

Correct Answer: **(C)**

Level: **Easy**

Tagging: **Evaluating**

Q15. Photosynthesis is an example of

(A) exothermic reaction

(B) endothermic reaction

(C) the reaction in which plant absorb methane gas

(D) the reaction in which plant get reduced

Correct Answer: **(B)**

Level: **Easy**

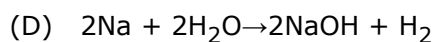
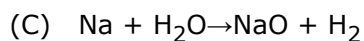
Tagging: **Remembering**

Q16. The balanced chemical equation for the reaction

Sodium + Water \rightarrow Sodium hydroxide + Hydrogen is

(A) $\text{Na} + \text{H}_2\text{O} \rightarrow \text{NaOH} + \text{H}_2$

(B) $\text{Na} + 2\text{H}_2\text{O} \rightarrow \text{Na}(\text{OH})_2 + \text{H}_2$



Correct Answer: **(D)**

Level: **Easy**

Tagging: **Applying**

Q17. The combination of oxidation and reduction

(A) redox

(B) replacement

(C) oxidation

(D) reduction

Correct Answer: **(A)**

Level: **Easy**

Tagging: **Understanding**

Q18. The formula for rust is

(A) CuO

(B) $\text{Fe}_2\text{O}_3 \cdot x\text{H}_2\text{O}$

(C) AgNO_3

(D) AgS

Correct Answer: **(B)**

Level: **Easy**

Tagging: **Remembering**

Q19. The shiny white finish on the walls a few days after white-washing is due to the formation of

(A) calcium oxide

(B) calcium hydroxide

(C) calcium carbonate

(D) calcium sulphate

Correct Answer: **(C)**

Level: **Easy**

Tagging: **Remembering**

Q20. What affects the speed of chemical reaction ?

(A) rate of reaction

(B) acid

(C) base

(D) electronic chemical

Correct Answer: **(A)**

Level: **Easy**

Tagging: **Understanding**

Q21. What is the colour of copper sulphate solution?

(A) Green

(B) Light green

(C) Violet

(D) Blue

Correct Answer: **(D)**

Level: **Easy**

Tagging: **Remembering**

Q22. What is written on the RHS of a chemical equation?

- (A) Reactants
- (B) Products
- (C) Catalyst
- (D) Heat absorbed

Correct Answer: **(B)**

Level: **Easy**

Tagging: **Remembering**

Q23. Which one of the following statement is incorrect ?

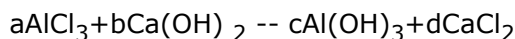
- (A) All element are homogeneous
- (B) Compounds always contains two or more different elements.
- (C) A mixture is not always heterogeneous
- (D) Air is a heterogeneous mixture

Correct Answer: **(D)**

Level: **Easy**

Tagging: **Remembering**

Q24. Identify a, b, c, & d in following reaction?



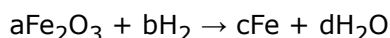
- (A) $a = 2, b = 1, c = 3, d = 4$
- (B) $a = 2, b = 3, c = 2, d = 3$
- (C) $a = 3, b = 3, c = 3, d = 3$
- (D) $a = 3, b = 1, c = 3, d = 2$

Correct Answer: **(B)**

Level: **Moderate**

Tagging: **Applying**

Q25. In the balanced equation -



The value of a,b,c,d are respectively -

- (A) 1,1,2,3
- (B) 1,1,1,1
- (C) 1,3,2,3
- (D) 1,2,2,3

Correct Answer: **(C)**

Level: **Moderate**

Tagging: **Evaluating**

Q26. In the reaction $\text{FeSO}_4 + x \rightarrow \text{Na}_2\text{SO}_4 + \text{Fe}(\text{OH})_2$, x is -

- (A) Na_2SO_4
- (B) 2SO_4
- (C) NaOH
- (D) None of these

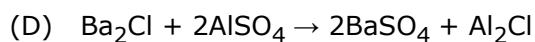
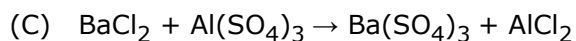
Correct Answer: **(C)**

Level: **Moderate**

Tagging: **Remembering**

Q27. The chemical reaction when barium chloride reacts with aluminium sulphate is represented by

- (A) $\text{BaCl} + \text{AlSO}_4 \rightarrow \text{BaSO}_4 + \text{AlCl}$
- (B) $3\text{BaCl}_2 + \text{Al}_2(\text{SO}_4)_3 \rightarrow 3\text{BaSO}_4 + 2\text{AlCl}_3$



Correct Answer: **(B)**

Level: **Moderate**

Tagging: **Applying**

Q28. When sodium sulphate solution and barium chloride solution are mixed together, the colour of precipitate formed is -

(A) Yellow

(B) Green

(C) White

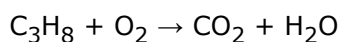
(D) Red

Correct Answer: **(C)**

Level: **Moderate**

Tagging: **Analyzing**

Q29. When the following reaction equation is properly balanced, the number of moles of O_2 will be



(A) 1.5 moles

(B) 3.5 moles

(C) 3 moles

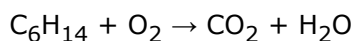
(D) 5 moles

Correct Answer: **(D)**

Level: **Moderate**

Tagging: **Evaluating**

Q30. When the following reaction is properly balanced the number of moles of O_2 will be



(A) 1.5 moles

(B) 13 moles

(C) 38 moles

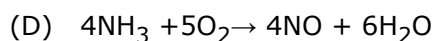
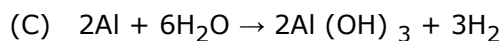
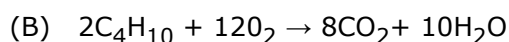
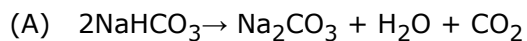
(D) 19 moles

Correct Answer: **(D)**

Level: **Moderate**

Tagging: **Applying**

Q31. Which of the following reactions is not balanced ?

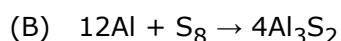
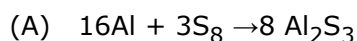


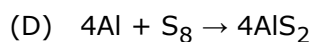
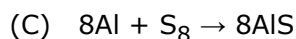
Correct Answer: **(B)**

Level: **Moderate**

Tagging: **Understanding**

Q32. Which of the following correctly represents the balanced chemical reaction between Aluminium and sulphur ?





Correct Answer: **(A)**

Level: **Difficult**

Tagging: **Understanding**

2. Types of Chemical Reaction

Q33. Which of the following is an example of exothermic reaction?

- (A) Rusting of iron
- (B) Cooking of foods
- (C) Respiration
- (D) Both A and C

Correct Answer: **(D)**

Level: **Easy**

Tagging: **Remembering**

Q34. Which type of chemical reaction takes place when a quick lime is added to water .

- (A) Displacement reaction
- (B) Double displacement
- (C) Decomposition reaction
- (D) Combination reaction

Correct Answer: **(D)**

Level: **Easy**

Tagging: **Understanding**

Q35. A redox reaction is one in which -

- (A) Both the substances are reduced
- (B) Both the substances are oxidised
- (C) An acid is neutralised by the base
- (D) One substance is oxidised, which the other is reduced.

Correct Answer: **(D)**

Level: **Easy**

Tagging: **Remembering**

Q36. A single product is formed from two or more reactants in a

- (A) reversible reaction
- (B) neutralisation reaction
- (C) decomposition reaction
- (D) combination reaction

Correct Answer: **(D)**

Level: **Easy**

Tagging: **Remembering**

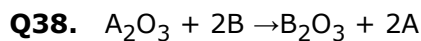
Q37. A substance which oxidises itself and reduces other is known as -

- (A) an oxidising agent
- (B) a reducing agent
- (C) Both of these
- (D) None of these

Correct Answer: **(D)**

Level: **Easy**

Tagging: **Understanding**



The reaction represents

- (A) double displacement reaction
- (B) displacement reaction
- (C) combination reaction
- (D) decomposition reaction

Correct Answer: **(B)**

Level: **Easy**

Tagging: **Remembering**

Q39. According to electronic concept

- (A) Oxidation is gain of electron
- (B) Electron donating species is called oxidising agent
- (C) Reduction is gain of electron
- (D) Electron accepting species is called reducing agent

Correct Answer: **(C)**

Level: **Easy**

Tagging: **Understanding**

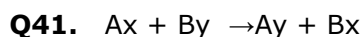
Q40. An element 'X' burns with a dazzling white light in oxygen and changes to a white powder. 'X' is

- (A) magnesium oxide
- (B) zinc
- (C) magnesium
- (D) zinc oxide

Correct Answer: **(C)**

Level: **Easy**

Tagging: **Remembering**



The above reaction is an example of

- (A) decomposition reaction
- (B) displacement reaction
- (C) combination reaction
- (D) double displacement reaction

Correct Answer: **(D)**

Level: **Easy**

Tagging: **Remembering**

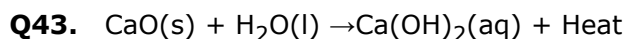
Q42. $CaCO_3 (s) + \text{Heat} \rightarrow CaO (s) + CO_2 (g)$, this reaction is

- (A) an endothermic reaction
- (B) an exothermic reaction
- (C) a reaction that is neither endothermic nor exothermic
- (D) a reaction in which a catalyst is used.

Correct Answer: **(A)**

Level: **Easy**

Tagging: **Understanding**



(Quick lime) (Slaked lime)

- (A) a precipitation reaction

- (B) a neutralisation reaction
- (C) exothermic reaction
- (D) endothermic reaction

Correct Answer: **(C)**

Level: **Easy**

Tagging: **Remembering**

Q44. Choose the decomposition reaction in the following.

- (A) $\text{H}_2 + \text{Cl}_2 \rightarrow 2\text{HCl}$
- (B) $\text{KOH} + \text{HCl} \rightarrow \text{KCl} + \text{H}_2\text{O}$
- (C) $\text{Fe} + \text{CuSO}_4 \rightarrow \text{FeSO}_4 + \text{Cu}$
- (D) $2\text{KClO}_3 \rightarrow 2\text{KCl} + 3\text{O}_2$

Correct Answer: **(D)**

Level: **Easy**

Tagging: **Remembering**

Q45. Combination reactions are opposite of _____ reactions.

- (A) redox
- (B) decomposition
- (C) displacement
- (D) double displacement

Correct Answer: **(B)**

Level: **Easy**

Tagging: **Remembering**

Q46. Consider the reaction $\text{A} + \text{B} \rightarrow \text{C} + \text{D} + \text{Heat}$ this is example of

- (A) reversible reaction
- (B) endothermic reaction
- (C) exothermic reaction
- (D) all of the above

Correct Answer: **(C)**

Level: **Easy**

Tagging: **Understanding**

Q47. Decomposition reaction is

- (A) Mostly exothermic
- (B) Mostly endothermic
- (C) That reaction in which one substance get decomposed into simpler substances
- (D) Both (B) and (C)

Correct Answer: **(D)**

Level: **Easy**

Tagging: **Remembering**

Q48. Heating lead nitrate is an example of

- (A) decomposition reaction
- (B) exothermic reaction
- (C) precipitation reaction
- (D) combination reaction

Correct Answer: **(A)**

Level: **Easy**

Tagging: **Remembering**

Q49. In a particular chemical reaction at 5000°C and 1 atm pressure in the presence of catalyst (V_2O_5) the energy released is 182 kJ. We can say about this reaction that it is a/an

- (A) exothermic reaction
- (B) endothermic reaction
- (C) data insufficient
- (D) redox reaction

Correct Answer: **(A)**

Level: **Easy**

Tagging: **Understanding**

Q50. In the following reaction $H_2S_{(g)} + Cl_{2(g)} \rightarrow S + 2HCl$ which of the following gets oxidized ?

- (A) H
- (B) H_2S
- (C) Cl_2
- (D) Both (B) and (C)

Correct Answer: **(B)**

Level: **Easy**

Tagging: **Understanding**

Q51. In the process of burning of magnesium in air, magnesium undergoes -

- (A) reduction
- (B) sublimation
- (C) oxidation
- (D) All of these

Correct Answer: **(C)**

Level: **Easy**

Tagging: **Remembering**

Q52. In the reaction $Mg + Cl_2 \rightarrow MgCl_2$

Chlorine may be regarded as -

- (A) an oxidising agent
- (B) a reducing agent
- (C) a catalyst
- (D) providing an inert medium

Correct Answer: **(A)**

Level: **Easy**

Tagging: **Understanding**

Q53. Oxidation is

- (A) the loss of oxygen
- (B) the gain of oxygen
- (C) The gain of electrons
- (D) none of these

Correct Answer: **(B)**

Level: **Easy**

Tagging: **Remembering**

Q54. Rancidity can be checked using

- (A) Oxidants
- (B) anti oxidants
- (C) not using nitrogen gas
- (D) by loose packing and keeping food in air

Correct Answer: **(B)**

Level: **Easy**

Tagging: **Understanding**

Q55. Silver can be obtained from silver nitrate solution by copper because

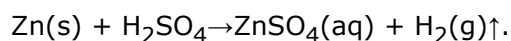
- (A) copper is more reactive and displaces silver from its solution.
- (B) copper is unreactive and silver gets decomposed nitrate.
- (C) copper is less reactive and displaces silver from its solution.
- (D) silver nitrate decomposes in aqueous solution.

Correct Answer: **(A)**

Level: **Easy**

Tagging: **Understanding**

Q56. The reaction shown is an example of



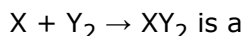
- (A) combination reaction
- (B) displacement reaction
- (C) decomposition reaction
- (D) double displacement reaction

Correct Answer: **(B)**

Level: **Easy**

Tagging: **Applying**

Q57. The reaction,



- (A) combination reaction
- (B) displacement reaction
- (C) decomposition reaction
- (D) double displacement reaction

Correct Answer: **(A)**

Level: **Easy**

Tagging: **Remembering**

Q58. Two test tubes filled with water are inverted over the electrodes during electrolysis of water to

- (A) separate the two electrodes
- (B) prevent the electric current from flowing
- (C) to collect the gases evolved
- (D) protect the electrodes materials from reacting with gases

Correct Answer: **(C)**

Level: **Easy**

Tagging: **Remembering**

Q59. Vegetable matter \rightarrow Compost

The above reaction is an example of _____ .

- (A) Exothermic reaction
- (B) Endothermic reaction

- (C) Combination reaction
- (D) Displacement reaction

Correct Answer: **(A)**

Level: **Easy**

Tagging: **Remembering**

Q60. Which among the following statement(s) is (are) true ? Exposure of silver chloride to sunlight for a long duration turns grey due to

- (A) the formation of silver by decomposition of silver chloride
- (B) sublimation of silver chloride
- (C) decomposition of chlorine gas from silver chloride
- (D) oxidation of silver chloride

Correct Answer: **(A)**

Level: **Moderate**

Tagging: **Remembering**

Q61. A test tube contains a colourless solution of potassium iodide. The presence of iodine can be tested by:

- (A) adding a few drops of blue litmus solution
- (B) adding a few drops of copper sulphate solution.
- (C) passing carbon dioxide gas through the solution
- (D) passing chlorine gas through the solution

Correct Answer: **(D)**

Level: **Moderate**

Tagging: **Analyzing**

Q62. Aluminium oxide reacts with sulphuric acid to form :

- (A) Aluminium sulphate and hydrogen.
- (B) Aluminium sulphate and oxygen.
- (C) Aluminium sulphate and water.
- (D) Aluminium sulphate and sulphur dioxide.

Correct Answer: **(C)**

Level: **Moderate**

Tagging: **Understanding**

Q63. Burning of a candle is

- (A) an exothermic reaction
- (B) an oxidation reaction
- (C) both (A) and (B)
- (D) endothermic reaction

Correct Answer: **(C)**

Level: **Moderate**

Tagging: **Understanding**

Q64. $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$ (Conversion of CaCO_3 in to CaO) is an example of _____ .

- (A) Decomposition reaction
- (B) Reduction reaction
- (C) Oxidation reaction
- (D) None of these

Correct Answer: **(A)**

Level: **Moderate**

Tagging: **Understanding**

Q65. Chemical reaction $2\text{Na} + \text{Cl}_2 \rightarrow 2 \text{NaCl}$ is an example of -

- (A) Combination reaction
- (B) decomposition reaction
- (C) displacement reaction
- (D) double displacement reaction

Correct Answer: **(A)**

Level: **Moderate**

Tagging: **Understanding**

Q66. $\text{Fe}_2\text{O}_3 + 2\text{Al} \rightarrow \text{Al}_2\text{O}_3 + 2\text{Fe}$ This reaction is an example of -

- (A) Combination reaction
- (B) Double displacement reaction
- (C) Decomposition reaction
- (D) Displacement reaction

Correct Answer: **(D)**

Level: **Moderate**

Tagging: **Understanding**

Q67. Haber's process of ammonia synthesis, in which nitrogen and hydrogen gas react to give ammonia is an example of

- (A) Endothermic reaction
- (B) reversible reaction
- (C) irreversible reaction
- (D) data insufficient

Correct Answer: **(B)**

Level: **Moderate**

Tagging: **Remembering**

Q68. $\text{Na}_2\text{SO}_4 + \text{H}_2\text{O}$

Above equation is a -

- (i) Neutralization reaction
 - (ii) Double displacement reaction
 - (iii) Decomposition reaction
 - (iv) Addition reaction
- (A) (i) to (iv) all
 - (B) (i) and (ii)
 - (C) (i) and (iii)
 - (D) (ii) and (iv)

Correct Answer: **(B)**

Level: **Moderate**

Tagging: **Understanding**

Q69. The basis of black and white photography is -

- (A) decomposition of lead salts
- (B) combination of lead salts
- (C) decomposition of silver salts
- (D) combination of silver salts

Correct Answer: **(C)**

Level: **Moderate**

Tagging: **Remembering**

Q70. The reaction $C + O_2 \rightarrow CO_2 + \text{Heat}$ is a –

- (A) Combination reaction
- (B) Oxidation reaction
- (C) Exothermic reaction
- (D) All of the above

Correct Answer: **(D)**

Level: **Moderate**

Tagging: **Understanding**

Q71. The reaction $H_2 + Cl_2 \rightarrow 2HCl$ is a –

- (A) Decomposition reaction
- (B) Combination reaction
- (C) Double displacement reaction
- (D) Displacement reaction

Correct Answer: **(B)**

Level: **Moderate**

Tagging: **Understanding**

Q72. The reaction in which two compounds exchange their ions to form two new compounds is–

- (A) a displacement reaction
- (B) a decomposition reaction
- (C) an addition reaction
- (D) a double displacement reaction

Correct Answer: **(D)**

Level: **Moderate**

Tagging: **Remembering**

Q73. The reactions in which the energy needed in bond breaking in the reactant is less than the energy released when new bonds are formed resulting in products are

- (A) exothermic reaction
- (B) endothermic reaction
- (C) Data insufficient
- (D) Redox reaction

Correct Answer: **(A)**

Level: **Moderate**

Tagging: **Remembering**

Q74. The type of reaction that gives an upward thrust to space rockets is –

- (A) decomposition reaction
- (B) combination reaction
- (C) endothermic reaction
- (D) double displacement

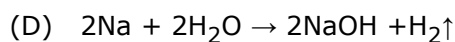
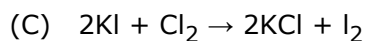
Correct Answer: **(C)**

Level: **Moderate**

Tagging: **Understanding**

Q75. Which of the following equations is not an example of single displacement reaction?

- (A) $2Al + Fe_2O_3 \rightarrow Al_2O_3 + 2Fe$
- (B) $Ca + Cl_2 \rightarrow CaCl_2$

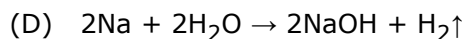
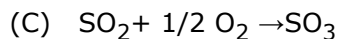
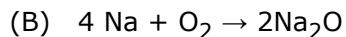
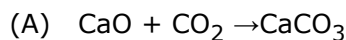


Correct Answer: **(B)**

Level: **Moderate**

Tagging: **Understanding**

Q76. Which of the following equations is representing combination of two elements?



Correct Answer: **(B)**

Level: **Moderate**

Tagging: **Understanding**

Q77. Which of the following is a combination reaction –

(A) Boiling of water

(B) Melting of wax

(C) Burning of petrol

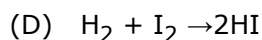
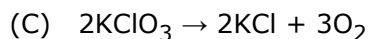
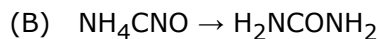
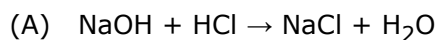
(D) None of these

Correct Answer: **(C)**

Level: **Moderate**

Tagging: **Understanding**

Q78. Which of the following is a decomposition reaction?

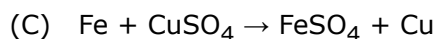
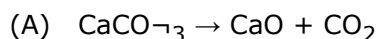


Correct Answer: **(C)**

Level: **Moderate**

Tagging: **Understanding**

Q79. Which of the following is a displacement reaction?

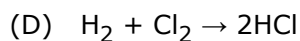
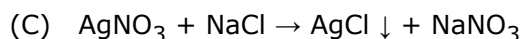
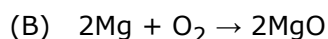
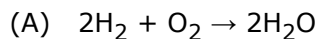


Correct Answer: **(C)**

Level: **Moderate**

Tagging: **Understanding**

Q80. Which of the following is a double displacement reaction?



Correct Answer: **(C)**

Level: **Moderate**

Tagging: **Understanding**

Q81. Which of the following is not a decomposition reaction?

- (A) $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$
- (B) $2\text{KClO}_3 \rightarrow 2\text{KCl} + 3\text{O}_2$
- (C) Digestion of food in the body
- (D) $\text{H}_2 + \text{Cl}_2 \rightarrow 2\text{HCl}$

Correct Answer: **(D)**

Level: **Moderate**

Tagging: **Understanding**

Q82. Which of the following is/are a decomposition reaction(s)?

- (A) $2\text{HgO} \xrightarrow{\text{Heat}} 2\text{Hg} + \text{O}_2$
- (B) $\text{CaCO}_3 \xrightarrow{\text{Heat}} \text{CaO} + \text{CO}_2$
- (C) $2\text{H}_2\text{O} \xrightarrow{\text{Electrolysis}} \text{H}_2 + \text{O}_2$
- (D) All of these

Correct Answer: **(D)**

Level: **Moderate**

Tagging: **Understanding**

Q83. Which of the following reaction is a redox reaction as well as displacement reaction ?

- (A) $2\text{HgCl}_2 + \text{SnCl}_2 \rightarrow \text{Hg}_2\text{Cl}_2 + \text{SnCl}_4$
- (B) $\text{ZnO} + \text{C} \rightarrow \text{Zn} + \text{CO}$
- (C) $2\text{Al} + 6\text{HCl} \rightarrow 2\text{AlCl}_3 + 3\text{H}_2$
- (D) $\text{H}_2\text{S} + \text{Cl}_2 \rightarrow 2\text{HCl} + \text{S}$

Correct Answer: **(C)**

Level: **Moderate**

Tagging: **Understanding**

Q84. Which of the following reaction is metathesis reaction?

- (A) $\text{FeCl}_3 + 3\text{NaOH} \rightarrow \text{Fe(OH)}_3 + 3\text{NaCl}$
- (B) $\text{Zn} + \text{H}_2\text{SO}_4 \rightarrow \text{ZnSO}_4 + \text{H}_2$
- (C) $2\text{CO} + \text{O}_2 \rightarrow 2\text{CO}_2$
- (D) $\text{N}_2 + \text{O}_2 \rightarrow 2\text{NO}$

Correct Answer: **(A)**

Level: **Moderate**

Tagging: **Understanding**

Q85. Which of the following reactions is/are also called partner exchange reactions ?

- (A) Neutralisation reactions
- (B) Precipitation reactions
- (C) Both A and B
- (D) Chemical decomposition

Correct Answer: **(C)**

Level: **Moderate**

Tagging: **Remembering**

3. Oxidation State, Modern Concept of Oxidation Reduction

Q86. A chloride ion is formed by the _____ of _____ electron (s) by a chlorine atom.

- (A) loss, one
- (B) gain, one
- (C) loss, two
- (D) gain, two

Correct Answer: **(B)**

Level: **Easy**

Tagging: **Remembering**

Q87. An equilibrium is attained from

- (A) Backward direction only
- (B) Forward direction only
- (C) From Both side of reaction
- (D) Reactant side only

Correct Answer: **(C)**

Level: **Easy**

Tagging: **Remembering**

Q88. During the reaction of Zn with H_2SO_4

- (A) Zn loses electrons
- (B) Zn gain electrons
- (C) Zn get reduced
- (D) Both A and C

Correct Answer: **(A)**

Level: **Easy**

Tagging: **Remembering**

Q89. Ferric oxide reacts with aluminium metal upon heating to form aluminium oxide and iron. In this reaction, Fe_2O_3 acts

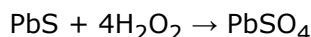
- (A) Reducing agent
- (B) Oxidizing agent
- (C) Both as oxidizing and reducing agent
- (D) Above reaction is not a redox reaction

Correct Answer: **(B)**

Level: **Easy**

Tagging: **Understanding**

Q90. Identify the correct oxidant and reductant in the following reaction –



- (A) PbS – Oxidant, H_2O_2 – Reductant
- (B) PbS – Reductant, PbSO_4 – Oxidant
- (C) PbS – Reductant, H_2O_2 – Oxidant
- (D) H_2O_2 – Oxidant, H_2O – Reductant

Correct Answer: **(C)**

Level: **Easy**

Tagging: **Understanding**

Q91. In reaction $\text{SO}_2 + 2\text{H}_2\text{S} \rightarrow 2\text{H}_2\text{O} + 3\text{S}$ the reducing agent is-

- (A) SO_2
- (B) H_2S
- (C) H_2O
- (D) S

Correct Answer: **(B)**

Level: **Easy**

Tagging: **Understanding**

Q92. In the reaction $\text{PbO} + \text{C} \rightarrow \text{Pb} + \text{CO}$

- (A) PbO is oxidised
- (B) C acts as an oxidising agent
- (C) C acts as a reducing agent.
- (D) This reaction does not represent redox reaction.

Correct Answer: **(C)**

Level: **Easy**

Tagging: **Understanding**

Q93. In which of the following reaction 'Zn' undergo oxidation?

- (A) $\text{Zn}^{2+} + 2\text{e}^- \rightarrow \text{Zn}$
- (B) $\text{H}_2 \rightarrow 2\text{H}^+ + 2\text{e}^-$
- (C) $2\text{H}^+ + 2\text{e}^- \rightarrow \text{H}_2$
- (D) $\text{Zn} \rightarrow \text{Zn}^{2+} + 2\text{e}^-$

Correct Answer: **(D)**

Level: **Easy**

Tagging: **Understanding**

Q94. Which of the following is an example of oxidation reaction ?

- (A) $\text{Sn}^{+2} - 2\text{e}^- \rightarrow \text{Sn}^{+4}$
- (B) $\text{Fe}^{+3} + \text{e}^- \rightarrow \text{Fe}^{+2}$
- (C) $\text{Cl}_2 + 2\text{e}^- \rightarrow 2\text{Cl}$
- (D) None of these

Correct Answer: **(A)**

Level: **Easy**

Tagging: **Understanding**

Q95. Which statement is correct about the following reaction?

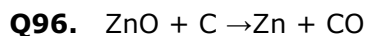


- (A) ZnO is being oxidized
- (B) CO is being reduced
- (C) CO_2 is being oxidized
- (D) ZnO is being reduced

Correct Answer: **(D)**

Level: **Easy**

Tagging: **Understanding**



Carbon acts as _____ in the reaction.

- (A) an oxidising agent
- (B) a reducing agent
- (C) a decomposing agent
- (D) a dissociating agent

Correct Answer: **(B)**

Level: **Easy**

Tagging: **Remembering**

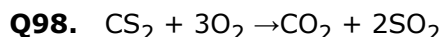
Q97. Ammonia is formed by combination of nitrogen and hydrogen gas, in the process.

- (A) Ammonia is reduction product of N_2
- (B) Ammonia is oxidation product of H_2
- (C) Nitrogen acts as oxidising agent
- (D) All of these

Correct Answer: **(D)**

Level: **Moderate**

Tagging: **Analyzing**



In the above reaction

- (A) only CO_2 is formed by oxidation.
- (B) only SO_2 is formed by oxidation.
- (C) both CO_2 and SO_2 are formed by oxidation.
- (D) CS_2 is reduced.

Correct Answer: **(C)**

Level: **Moderate**

Tagging: **Applying**

Q99. Following reaction represents a redox reaction in this process $2\text{Na} + \text{Cl}_2 \rightarrow 2\text{NaCl}$

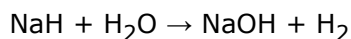
- (A) Na get oxidised
- (B) Cl_2 get oxidized
- (C) Cl_2 is oxidising agent
- (D) Both A and C

Correct Answer: **(D)**

Level: **Moderate**

Tagging: **Understanding**

Q100. In the given reactionHydrogen



- (A) Oxidation only
- (B) Both oxidation and reduction
- (C) Reduction only
- (D) None of these

Correct Answer: **(B)**

Level: **Moderate**

Tagging: **Understanding**

Q101. Oxidation and reduction are

- (A) Gain of electrons and loss of electrons
- (B) Gain of electrons & loss of electrons respectively
- (C) Loss of electrons & gain of electrons respectively
- (D) Loss of electrons & loss of electrons

Correct Answer: **(C)**

Level: **Moderate**

Tagging: **Remembering**

Q102. Oxidation is a process which involves -

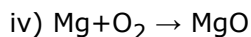
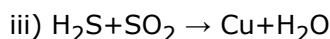
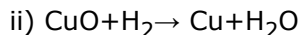
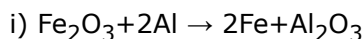
- (A) addition of oxygen
- (B) removal of hydrogen
- (C) loss of electrons
- (D) All are correct

Correct Answer: **(D)**

Level: **Moderate**

Tagging: **Remembering**

Q103. There are four types of reactions given



The reducing agents in I & II and oxidising agents in III & IV are

- (A) Mg, O₂, MgO, Al
- (B) Al, H₂ & SO₂, O₂
- (C) Fe₂O₃, CuO & SO₂, Mg
- (D) Al, CuO & H₂S, O₂

Correct Answer: **(B)**

Level: **Moderate**

Tagging: **Understanding**

Q104. When FeSO₄ crystals are heated in a test tube, the pale green colour of FeSO₄ fades away, due to -

- (A) loss of electrons
- (B) loss of dye
- (C) oxidation is the gain of oxygen
- (D) loss of water of crystallization

Correct Answer: **(D)**

Level: **Moderate**

Tagging: **Remembering**

Q105. When the gases sulphur dioxide and hydrogen sulphide react, the reaction is $\text{SO}_2 + 2\text{H}_2\text{S} \rightarrow 2\text{H}_2\text{O} + 3\text{S}$ Here hydrogen sulphide is acting as -

- (A) an oxidising agent
- (B) a reducing agent
- (C) a dehydrating agent
- (D) a catalyst

Correct Answer: **(B)**

Level: **Moderate**

Tagging: **Understanding**

Q106. Which of the following is a redox reaction-

- (A) $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$
- (B) $\text{H}_2 + \text{Cl}_2 \rightarrow 2\text{HCl}$
- (C) $\text{CaO} + 2\text{HCl} \rightarrow \text{CaCl}_2 + \text{H}_2\text{O}$
- (D) $\text{NaOH} + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{O}$

Correct Answer: **(B)**

Level: **Moderate**

Tagging: **Understanding**

Q107. Which of the following statements is are false for oxidation reaction?

- (A) Gain or addition of electronegative radical
- (B) Removal of hydrogen atom.
- (C) Removal or loss of electropositive radical or element
- (D) None of these

Correct Answer: **(C)**

Level: **Moderate**

Tagging: **Remembering**

Q108. Which of the following acts as an oxidising agent?

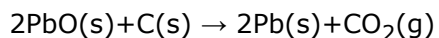
- (A) Cl_2
- (B) H_2
- (C) C
- (D) All of the above

Correct Answer: **(A)**

Level: **Moderate**

Tagging: **Remembering**

Q109. Which of the statements about the reaction below are incorrect ?



- (i) Lead is getting reduced
 - (ii) Carbon dioxide is getting oxidised
 - (iii) Carbon is getting oxidised
 - (iv) Lead oxide is getting reduced
- (A) (i) and (ii)
 - (B) (i) and (iii)
 - (C) (i), (ii) and (iii)
 - (D) All

Correct Answer: **(A)**

Level: **Moderate**

Tagging: **Understanding**

Q110. Which statement is correct about the following reaction? $\text{ZnO} + \text{CO} \rightarrow \text{Zn} + \text{CO}_2$

- (A) ZnO is being oxidized
- (B) CO is being reduced
- (C) CO_2 is being oxidized
- (D) ZnO is being reduced

Correct Answer: **(D)**

Level: **Difficult**

Tagging: **Understanding**

4. Corrosion and Rancidity

Q111. A brown mass of ferric chloride is formed on iron surface as a result of combination reaction between iron and chlorine, in this process

- (A) Iron get oxidised
- (B) Iron get reduced
- (C) Iron get oxidised as well reduced
- (D) It is not a redox process

Correct Answer: **(A)**

Level: **Easy**

Tagging: **Evaluating**

Q112. Corrosion occurs in

- (A) iron
- (B) silver
- (C) copper
- (D) all of the above

Correct Answer: **(D)**

Level: **Easy**

Tagging: **Remembering**

Q113. Food containing fats and oils are prevented from turning rancid by

- (A) flushing with nitrogen
- (B) storing in air-tight containers
- (C) adding antioxidants
- (D) all of the above

Correct Answer: **(D)**

Level: **Easy**

Tagging: **Remembering**

Q114. In which of the following cells galvanization occurs?

- (A) electrolytic cells
- (B) denial cells
- (C) battery cells
- (D) johncells

Correct Answer: **(A)**

Level: **Easy**

Tagging: **Understanding**

Q115. Rancidity of food is

- (A) oxidation
- (B) reduction
- (C) displacement
- (D) decomposition

Correct Answer: **(A)**

Level: **Easy**

Tagging: **Remembering**

Q116. Rusting of iron is a chemical reaction. The reaction can be termed as

- (A) Displacement

- (B) combination
- (C) Double decomposition
- (D) substitution

Correct Answer: **(B)**

Level: **Easy**

Tagging: **Understanding**

Q117. single displacement reaction involves?

- (A) oxidation
- (B) reduction
- (C) redox
- (D) heating

Correct Answer: **(C)**

Level: **Easy**

Tagging: **Understanding**

Q118. Substances which prevent oxidation of foods containing fats and oils are called

- (A) rancid
- (B) antioxidants
- (C) oxidants
- (D) none of the above

Correct Answer: **(B)**

Level: **Easy**

Tagging: **Remembering**

Q119. The black coating on silver and the green coating on copper are examples of

- (A) rancidity
- (B) reduction
- (C) oxidation
- (D) corrosion

Correct Answer: **(D)**

Level: **Easy**

Tagging: **Remembering**

Q120. The element which has up property of metal and non metal are

- (A) amorphous
- (B) crystalline
- (C) metalloids
- (D) metals

Correct Answer: **(C)**

Level: **Easy**

Tagging: **Understanding**

Q121. The mechanism by which corrosion is prevented by ?

- (A) alloying
- (B) tinning
- (C) galvanizing
- (D) all of above

Correct Answer: **(D)**

Level: **Easy**

Tagging: **Understanding**

Q122. Which of non metals get's melted at room temperature?

- (A) iodine
- (B) bromine
- (C) carbon
- (D) sulphur

Correct Answer: **(B)**

Level: **Easy**

Tagging: **Understanding**

Q123. Copper objects lose their lusture or shine after sometime. The surface of these objects acquire a green coating of basic copper carbonate $\text{CuCO}_3 \cdot \text{Cu(OH)}_2$ which is called rust of copper. This is due to

- (A) Attack of H_2O (vap.) and CO_2 present in the atmosphere on the surface of copper
- (B) Attack of H_2O & O_2 present in the atmosphere on the surface of copper
- (C) Attack of H_2O , O_2 & CO_2 present in the atmosphere on the surface of copper
- (D) None of these

Correct Answer: **(C)**

Level: **Moderate**

Tagging: **Remembering**

Q124. Generally packing of fat and oil contain food is done by adding N_2 gas to it. It is because ____

- (A) Nitrogen is too reactive
- (B) nitrogen is unreactive gas and there is no oxygen of air to cause its oxidation
- (C) nitrogen have very good taste
- (D) Nitrogen have very good odour

Correct Answer: **(B)**

Level: **Moderate**

Tagging: **Remembering**

Q125. The methods to prevent corrosion can be

- (A) painting the surface of metal
- (B) greasing the surface of metal
- (C) Varnishing or coating the surface of metal
- (D) all of the above

Correct Answer: **(D)**

Level: **Moderate**

Tagging: **Remembering**

Q126. Which of the following is/are obtained as product of corrosion of certain metals

- (A) $\text{CuCO}_3 \cdot x\text{Cu(OH)}_2$
- (B) $\text{Fe}_2 \cdot x\text{H}_2\text{O}$
- (C) Ag_2S
- (D) All of these

Correct Answer: **(D)**

Level: **Moderate**

Tagging: **Remembering**