Chemical Reactions and Equations

1. Introduction, Chemical Reaction and Balancing

Q1. (a) $Ca(OH)_2$ + (b) HCl → (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. $2Na + 2H_2O \rightarrow 2NaOH + H_2\uparrow$ in this what type of chemical reaction is

(A) heating

(B) displacement

(C) oxidation

(D) reduction

Correct Answer: **(B)** Level: **Easy** Tagging: **Understanding**

Q5. $2NH_4CL$ 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 → 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 - $Cu + xHNO_3 \rightarrow Cu(NO_3)_2 + yNO_2 + 2H_2O$

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 – $Cu+xHNO_3 \rightarrow Cu(NO_3)_2 + yNO_2+2H_2O$

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 obserb 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 →Sodium hydroxide + Hydrogen is

(A) $Na + H_2O \rightarrow NaOH + H_2$

(B) $Na + 2H_2O \rightarrow Na(OH)_2+H_2$

(C) $Na + H_2O \rightarrow NaO + H_2$

(D) $2Na + 2H_2O \rightarrow 2NaOH + H_2$

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) $Fe_2O_3 .xH_2O$

(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 access 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?

$aAlCl_3+bCa(OH)_2$ -- $cAl(OH)_3+dCaCl_2$

(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 -

$aFe_2O_3 + bH_2 \rightarrow cFe + dH_2O$

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 $FeSo_4 + x \rightarrow Na_2SO_4 + Fe(OH)_2$, 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) $BaCl + AlSO_4 \rightarrow BaSO_4 + AlCl$

(B) $3BaCl_2 + Al_2(SO_4)_3 \rightarrow 3BaSO_4 + 2AlCl_3$

(C) $BaCl_2 + Al(SO_4)_3 \rightarrow Ba(SO_4)_3 + AlCl_2$

(D) $Ba_2Cl + 2AlSO_4 \rightarrow 2BaSO_4 + Al_2Cl$

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

$C_3H_8 + O_2 \rightarrow CO_2 + H_2O$

(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

$C_6H_{14} + O_2 \rightarrow CO_2 + H_2O$

(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 ?

(A) $2NaHCO_3 \rightarrow Na_2CO_3 + H_2O + CO_2$

(B) $2C_4H_{10} + 12O_2 \rightarrow 8CO_2 + 10H_2O$

(C) $2Al + 6H_2O \rightarrow 2Al(OH)_3 + 3H_2$

(D) $4NH_3 + 5O_2 \rightarrow 4NO + 6H_2O$

Correct Answer: **(B)** Level: **Moderate** Tagging: **Understanding**

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

(A) $16Al + 3S_8 \rightarrow 8\ Al_2S_3$

(B) $12Al + S_8 \rightarrow 4Al_3S_2$

(C) $8Al + S_8 \rightarrow 8AlS$

(D) $4Al + S_8 \rightarrow 4AlS_2$

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**

Q38. $A_2O_3 + 2B \rightarrow B_2O_3 + 2A$

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**

Q41. $Ax + By \rightarrow Ay + Bx$

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) + 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**

Q43. $CaO(s) + H_2O(l) \rightarrow Ca(OH)_2(aq)$ + Heat

(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) $H_2 + Cl_2 \rightarrow 2HCl$

(B) $KOH + HCl \rightarrow KCl + H_2O$

(C) $Fe + CuSO_4 \rightarrow FeSO_4 + Cu$

(D) $2KClO_3 \rightarrow 2KCl + 3O_2$

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 A + B → C + D + 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

$Zn(s) + H_2SO_4 \rightarrow ZnSO_4(aq) + H_2(g)\uparrow$.

(A) combination reaction

(B) displacement reaction

(C) decomposition reaction

(D) double displacement reaction

Correct Answer: **(B)** Level: **Easy** Tagging: **Applying**

Q57. The reaction,
$X + Y_2 \rightarrow XY_2$ is a

(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 →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. $CaCO_3 \rightarrow CaO + CO_2$ (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 $2Na + CI_2 \rightarrow 2\ NaCI$ 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. $Fe_2O + 2Al \rightarrow Al_2O_3 + 2Fe$ 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. $Na_2SO_4+H_2O$

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 $C + O_2 \rightarrow CO_2$ + 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) Doubledisplacement 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) $Ca + Cl_2 \rightarrow CaCI_2$

(C) $2KI + Cl_2 \rightarrow 2KCl + I_2$

(D) $2Na + 2H_2O \rightarrow 2NaOH + H_2\uparrow$

Correct Answer: **(B)** Level: **Moderate** Tagging: **Understanding**

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

(A) $CaO + CO_2 \rightarrow CaCO_3$

(B) $4\ Na + O_2 \rightarrow 2Na_2O$

(C) $SO_2 + 1/2\ O_2 \rightarrow SO_3$

(D) $2Na + 2H_2O \rightarrow 2NaOH + H_2\uparrow$

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?

(A) $NaOH + HCl \rightarrow NaCl + H_2O$

(B) $NH_4CNO \rightarrow H_2NCONH_2$

(C) $2KClO_3 \rightarrow 2KCl + 3O_2$

(D) $H_2 + I_2 \rightarrow 2HI$

Correct Answer: **(C)** Level: **Moderate** Tagging: **Understanding**

Q79. Which of the following is a displacement reaction?

(A) $CaCO\neg_3 \rightarrow CaO + CO_2$

(B) $CaO + 2HCl \rightarrow CaCl_2 + H_2O$

(C) $Fe + CuSO_4 \rightarrow FeSO_4 + Cu$

(D) $NaOH + HCl \rightarrow NaCl + H_2O$

Correct Answer: **(C)** Level: **Moderate** Tagging: **Understanding**

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

(A) $2H_2 + O_2 \rightarrow 2H_2O$

(B) $2Mg + O_2 \rightarrow 2MgO$

(C) $AgNO_3 + NaCl \rightarrow AgCl \downarrow + NaNO_3$

(D) $H_2 + Cl_2 \rightarrow 2HCl$

Correct Answer: **(C)** Level: **Moderate** Tagging: **Understanding**

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

(A) $CaCO_3 \rightarrow CaO + CO_2$

(B) $2KClO_3 \rightarrow 2KCl + 3O_2$

(C) Digestion of food in the body

(D) $H_2 + Cl_2 \rightarrow 2HCl$

Correct Answer: **(D)** Level: **Moderate** Tagging: **Understanding**

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

(A) $2HgO \xrightarrow{Heat} 2Hg + O_2$

(B) $CaCO_3 \xrightarrow{Heat} CaO + CO_2$

(C) $2H_2O \xrightarrow{Electrolysis} H_2 + O_2$

(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) $2\ HgCl_2 + SnCl_2 \rightarrow Hg_2\ Cl_2 + SnCl_4$

(B) $ZnO + C \rightarrow Zn + CO$

(C) $2Al + 6HCl \rightarrow 2AlCl_3 + 3H_2$

(D) $H_2\ S + Cl_2 \rightarrow 2HCl + S$

Correct Answer: **(C)** Level: **Moderate** Tagging: **Understanding**

Q84. Which of the following reaction is metathesis reaction?

(A) $FeCl_3 + 3NaOH \rightarrow Fe(OH)_3 + 3NaCl$

(B) $Zn + H_2SO_4 \rightarrow ZnSo_4 + H_2$

(C) $2CO + O_2 \rightarrow 2CO_2$

(D) $N_2 + O_2 \rightarrow 2NO$

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 ide 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 –

$PbS + 4H_2O_2 \rightarrow PbSO_4$

(A) PbS – Oxidant, H_2O_2 – Reductant

(B) PbS – Reductant, $PbSO_4$ – Oxidant

(C) PbS - Reductant, $H_2 O_2$ – Oxidant

(D) H_2O_2– Oxidant, H_2 O - Reductant

Correct Answer: **(C)** Level: **Easy** Tagging: **Understanding**

Q91. In reaction $SO_2 + 2H_2S \rightarrow 2H_2O + 3S$ 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 $PbO + C \rightarrow Pb + CO$

(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) $Zn^{2+} + 2e^- \rightarrow Zn$

(B) $H_{2,} \rightarrow 2H^+ + 2e^-$

(C) $2H^+ + 2e^- \rightarrow H_2$

(D) $Zn \rightarrow Zn^{2+} + 2e^-$

Correct Answer: **(D)** Level: **Easy** Tagging: **Understanding**

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

(A) $Sn^{+2} - 2e^- \rightarrow Sn^{+4}$

(B) $Fe^{+3} + e^- \rightarrow Fe^{+2}$

(C) $CI_2 + 2e^- \rightarrow 2CI$

(D) None of these

Correct Answer: **(A)** Level: **Easy** Tagging: **Understanding**

Q95. Which statement is correct about the following reaction?

$ZnO+CO \rightarrow Zn$

(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**

Q96. $ZnO + C \rightarrow Zn + CO$

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**

Q98. $CS_2 + 3O_2 \rightarrow CO_2 + 2SO_2$

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 $2Na + Cl_2 + 2Nacl$

(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

$NaH + H_2O \rightarrow NaOH + H_2$

(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

i) $Fe_2O_3+2Al \rightarrow 2Fe+Al_2O_3$

ii) $CuO+H_2 \rightarrow Cu+H_2O$

iii) $H_2S+SO_2 \rightarrow Cu+H_2O$

iv) $Mg+O_2 \rightarrow MgO$

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

(A) Mg, O_2, MgO,Al

(B) Al, H_2 & SO_2, O_2

(C) Fe_2O_3, CuO & SO_2, Mg

(D) Al, CuO & H_2S, O_2

Correct Answer: **(B)** Level: **Moderate** Tagging: **Understanding**

Q104. When $FeSO_4$ crystals are heated in a test tube, the pale green colour of $FeSO_4$ 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$SO_2 + 2H_2S \rightarrow 2H_2O +$ 3SHere 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) $CaCO_3 \rightarrow CaO + CO_2$

(B) $H_2 + Cl_2 \rightarrow 2HCl$

(C) $CaO + 2HCl \rightarrow CaCl_2 + H_2O$

(D) $NaOH + HCl \rightarrow NaCl + H_2o$

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 ?

$2PbO(s)+C(s) \rightarrow 2Pb(s)+CO_2(g)$

(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?$ZnO + CO \rightarrow Zn + CO_2$

(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 $CuCO_3.Cu(OH)_2$ 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) $CuCO_3 .xCu(OH)_2$

(B) $Fe_2 . xH_2O$

(C) Ag_2S

(D) All of these

Correct Answer: **(D)** Level: **Moderate** Tagging: **Remembering**