

BALABHADRA SKILL DEVELOPMENT ACADEMY
SCIENCE QUESTION BANK - 17

Time: 1 Hour

Full marks: 65

Pass marks: 50

1. A complete chemical equation represents ____, ____ and ____.
2. In a balanced chemical equation the numbers of atoms of each type involved in a chemical reaction are ____ on the reactant and product sides of the equation.
- 2(a) In ____ reaction, two or more substances combine to form a single substance.
3. ____ reactions are opposite to combination reactions.
4. In a ____ reaction, a single substance decomposes to give two or more substances.
5. Reactions in which heat is given out along with the products are called ____ reactions.
6. Reactions in which energy is absorbed are known as ____ reactions.
- 6(a) When an element displaces another element in its compound, it is called ____ reaction.
- 6(b) In ____ reaction ^{two} to different atoms or groups are exchanged.
7. ____ reactions produce insoluble salts.
8. Reactions also involve the gain or loss of ____ or ____ by substances.
9. ____ is the gain of oxygen or loss of hydrogen.
10. ____ is the loss of oxygen or gain of hydrogen.
11. ____ are dyes or mixtures of dyes which are used to indicate the presence of acids and bases.
12. Acidic nature of a substance is due to the formation of ____ ions in solution.
13. Formation of ____ ions in solution is responsible for the basic nature of a substance.
14. When an acid reacts with a ____, hydrogen gas is evolved and a corresponding salt is formed.
15. When a base reacts with a metal, along with the evolution of ____ a ____ is formed which has a negative ion composed of the ____ and ____.
16. When an acid reacts with a metal carbonate or metal hydrogencarbonate, it gives ____, ____ and ____.
17. ____ and ____ solutions in water conduct electricity because they produce hydrogen and hydroxide ions respectively.
- 17(a) Acidic solution in water produces ____.
- 17(b) Basic solution in water produces ____.
18. The strength of an acid or an alkali can be tested by using a scale called the ____.
- 18(a) pH scale gives the measure of ____ in a solution.
19. A neutral solution has a pH of ____.
- 19(a) An acidic solution has pH value ____.
- 19(b) A basic solution has pH value ____.
20. Living beings carry out their metabolic activities within an optimal ____ range.
21. Mixing concentrated acids or bases with water is a highly ____ process.
22. Acids and bases neutralise each other to form corresponding ____ and ____.

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23. Water of _____ is the fixed number of water molecules present in one formula unit of a salt.
24. Elements can be classified as _____ and _____.
25. Metals are _____, _____, _____ and _____.
26. _____ are solids at room temperature, except mercury which is a liquid.
27. Metals can form positive ions by losing _____ to _____.
28. Metals combine with _____ to form basic oxides.
- 28(a) _____ and _____ show the properties of both basic as well as acidic oxides.
- 28(b) Oxides which show properties of both basic and acidic oxides are called _____.
29. Different metals have different reactivities with _____ and _____.
30. A list of common metals arranged in order of their decreasing reactivity is known as an _____.
31. Metals above hydrogen in the Activity series can displace _____ from dilute acids.
32. A more reactive metal displaces a less reactive metal from its _____ solution.
33. _____ occur in nature as free elements or in the form of their compounds.
34. The extraction of metals from their ores and then refining them for use is known as _____.
35. An _____ is a homogeneous mixture of two or more metals, or a metal and a non-metal.
36. The surface of some metals, such as iron, is corroded when they are exposed to moist air for a long period of time. This phenomenon is known as _____.
37. _____ are bad conductors of heat and electricity.
- 37(a) _____ which is a non-metal conducts electricity.
38. _____ is a versatile element that forms the basis for all living organisms and many of the things we use.
- 38(a) Carbon forms variety of compounds because of _____ and _____.
39. _____ bonds are formed by the sharing of electrons between two atoms so that both can achieve a completely filled outermost shell.
40. Carbon forms _____ bonds with itself and other elements such as hydrogen, oxygen, sulphur, nitrogen and chlorine.
41. Carbon forms compounds containing _____ and _____ bonds between carbon atoms.
42. The ability of carbon to form chains gives rise to a _____ series of compounds in which the same functional group is attached to carbon chains of different lengths.
43. Carbon and its compounds are some of our major sources of _____.
- 43(a) _____, _____, _____ and _____ are functional groups attach to carbon chain.
44. _____ and _____ are carbon compounds of importance in our daily lives.
45. The action of soap and detergent is based on the presence of both _____ and _____ groups in the molecule and this helps to _____ the oily dirt and hence its removal.
46. _____ are classified on the basis of similarities in their properties.
47. _____ grouped the elements into triads and _____ gave the Law of Octave.
48. Mendeléev arranged the elements in _____ and according to their _____.
49. Mendeléev predicted the existence of some yet to be discovered elements on the basis of gaps in his _____ Table.

50. Anomalies in arrangement of elements based on increasing atomic mass could be removed when the elements were arranged in ____ and ____.
51. Elements in the Modern Periodic Table are arranged in ____ vertical columns called ____ and ____ horizontal rows called ____.
52. Elements arranged in periodic table show periodicity of properties including ____, ____, ____, ____ and ____.

BALABHADRA SKILL DEVELOPMENT ACADEMY
SCIENCE QUESTION BANK – 17 (ANSWER)

1. reactants, products, physical states symbolically
2. same
- 2(a) Combination
3. Decomposition
4. decomposition
5. exothermic
6. endothermic
- 6(a) displacement
- 6(b) double displacement
7. Precipitation
8. oxygen, hydrogen
9. Oxidation
10. Reduction
11. Acid-base indicators
12. $H^+(aq)$
13. $OH^-(aq)$
14. metal
15. hydrogen, salt, metal, oxygen
16. corresponding salt, carbon dioxide, water
17. Acidic, basic
- 17(a) hydrogen ion
- 17(b) hydroxide ion
18. pH scale (0-14)
- 18(a) hydrogen ion concentration
19. 7
- 19(a) less than 7
- 19(b) more than 7
20. pH
21. exothermic
22. salts, water
23. crystallisation
24. metals, non-metals
25. lustrous, malleable, ductile, good conductors of heat, electricity
26. Metals
27. electrons, non-metals
28. oxygen
- 28(a) Aluminium oxide, zinc oxide
- 28(b) Amphoteric oxide
29. water, dilute acids
30. activity series
31. hydrogen
32. salt
33. Metals

34. metallurgy
35. alloy
36. corrosion
37. Non-metals
- 37(a) graphite
38. Carbon
- 38(a) tetravalency, catenation
39. Covalent
40. Covalent
41. double, triple
42. homologous
43. fuels
- 43(a) Alcohol, aldehydes, ketones, carboxylic acids
44. Ethanol, ethanoic acid
45. hydrophobic, hydrophilic, emulsify
46. Elements
47. Döbereiner, Newlands
48. increasing order of their atomic masses, chemical properties
49. Periodic
50. order of increasing atomic number, fundamental properties
51. 18, groups, 7, periods
52. atomic size, valence, combining capacity, metallic, non-metallic character