

**Chapter # 01****INTRODUCTION TO CHEMISTRY**

- Which one of these was the first to use opium as anesthesia?  
a. Jabir-ibin-Haiyan                      b. Bu Ali Sina                      c. Al-Beruni                      d. Al-Razi
- Which gas is studied by J-Black.  
a. carbon monodioxide                      b. carbon dioxide                      c. Sulphur dioxide                      d. hydrogen chloride
- Scheele discovered  
a. chlorine                      b. Fluorine                      c. iodine                      d. Hydrogen
- Who discovered the periodic arrangement of the elements?  
a. Berzelius                      b. Gay Lussac                      c. Mendeleev                      d. Faraday
- Which of these branches of chemistry deals with the study of compounds of living organisms.  
a. Organic                      b. Analytical                      c. Environmental                      d. Biochemistry
- The study of laws and principles governing the combination of atoms and molecules in a chemical reaction is called  
a. Physical chemistry                      b. Industrial chemistry                      c. Analytical chemistry                      d. Inorganic chemistry
- Greek philosopher introduced the concept of elements on earth  
a. Three                      b. Four                      c. Five                      d. Six
- Which one of these scientists is known as Father of Chemistry?  
a. Jabir-bin Haiyan                      b. Bu Ali Sina                      c. Al-Beruni                      d. Aristotle
- Information acquired through careful observation is known as:  
a. Facts                      b. Prediction                      c. Theory                      d. None of them
- A theory when repeatedly gives the same results after experimentation and offers correct explanation of the scientific facts, it then becomes  
a. Law                      b. Principle                      c. Both a and b                      d. None of them
- Which one of these scientists suggested the symbols of elements  
a Dalton                      b. Wohler                      c. Faraday                      d. Berzelius
- Who studied the process of electrolysis in details?  
a. Boyle                      b. Gibbs                      c. Hess                      d. Faraday

13. What work Lavoisier did?

- a. Oxygen constituted about one fifth of air  
b. Developed the atomic theory  
c. Suggested the symbols of elements  
d. Arranged the elements in periodic table.

14. Madam Curie did valuable research in

- a. Radioactivity  
b. Evaporation  
c. Distillation  
d. none of them

15. Sulphuric acid was discovered by

- a. Al-Beruni  
b. A-Razi  
c. Jabir Bin Hayan  
d. Bu Ali Sina

16. The Information obtained observation is called

- a. Fact  
b. Theory  
c. Principle  
d. Law

17. A hypothesis is tested by:

- a. observation  
b. experiment  
c. scientific laws  
d. Comparison with other theories

18. Scientific method comprises steps.

- a. Two  
b. Four  
c. Five  
d. Three

19. Who presented the laws of electrolysis?

- a. Neil Bohr  
b. Rutherford  
c. J Berzelius  
d. Michael Faraday

20. Who discovered nitric acid, hydrochloric acid and sulphuric acid?

- a. Jabir Bin Hayan .  
b. Al Razi  
c. A-Beruni  
d. Al-Haitham

21. Man started chemical activities by looking at

- a. Condensation  
b. Photosynthesis  
c. Combustion  
d. Respiration

22. The Muslim period extends from:

- a. 600-1600 A.D                      b. 800-1300 A.D                      c. 100-1000 A.D                      d. 200-2000 A.D

23. The compounds of what are used in toothpastes to prevent the decay teeth

- a. Chlorides                      b. Fluorides                      c. Halides                      d. Oxides

24. A theory, which gives the same results after repeated experiments become a

- a. Hypothesis                      b. Fact                      c. Law                      d. All of these

25. Golden script writing with iron pyrites was introduced by

- a. Al-Razi                      b. Jabir Bin Hayan                      c. Al-Beruni                      d. Ibne Sena



## ATOMIC STRUCTURE

1. The nucleus of an atom consists of:
- a. Electrons and protons  
b. Protons and neutrons  
c. Electrons and neutrons  
d. None of these
2. Which particle is the lightest in the following:
- a. Electron  
b. Proton  
c. Neutron  
d.  $\alpha$ -particles,
3. Which particles is heavier than others. Proton
- a. Electron  
b. Proton  
c. Neutron  
d.  $\alpha$ -particles,
4. The mass of electron is:
- a.  $9.11 \times 10^{-28}$  g  
b.  $9.11 \times 10^{-26}$  g  
c.  $9.11 \times 10^{-27}$  g  
d.  $9.11 \times 10^{-31}$  g
5. The mass of proton is
- a.  $1.67 \times 10^{-28}$  g  
b.  $1.67 \times 10^{-26}$  g  
c.  $1.67 \times 10^{-27}$  g  
d.  $1.67 \times 10^{-24}$  g
6. Charge on an electron
- a.  $1.6 \times 10^{-18}$  C  
b.  $1.6 \times 10^{19}$  C  
c.  $1.6 \times 10^{-15}$  C  
d.  $1.6 \times 10^{-19}$  C
7. Atoms are neither created n or destroyed in chemical reaction is the assumption of
- a. Goldstein  
b. Dalton  
c. Bohr's  
d. Rutherford
8. Electrons were discovered by
- a. Goldstein  
b. Rutherford  
c. J.J. Thomson  
d. James Chadwick
9. James Chadwick discovered the
- a. Electron  
b. Proton  
c. Neutron  
d. Nucleus
10. Which rays deflected towards negative pole in electric or magnetic field.
- a. Alpha rays  
b. Beta rays  
c. gamma rays  
d. Cathode rays

11. The e/m ratio of the \_\_\_\_\_ rays varies with the nature of gas in the discharged tube.

- a. Beta rays                      b. Cathode rays                      c. Gamma rays                      d. Positive rays



2. In Rutherford's experiment very few alpha particles are

- a. un deflected                      b. Deflected at large                      c. bounced                      d. none of these

13. Atomic number of oxygen is

- a. 12                      b. 6                      c. 8                      d. 16

14. Tritium and isotopes of hydrogen contains \_\_\_\_\_ neutrons.

- a.1                      b.2                      c.3                      d.4

15. Chemical properties of an element depend on the \_\_\_\_\_ in the shells.

- a. neutrons                      b. electrons                      c. Protons                      d. none of them

10. Mass number of protium is:

- a.1                      b.2                      c.3                      d.4

17. When cathode ray hit on an object, they produce

- a. Effervescence                      b. Fluorescence                      c. Darkness                      d. Sound

18. A neutron has mass equal to a proton and it has

- a. Double positive charge                      b. Positive charge                      c. No Charge                      d. Negative charge

19. Proton is how many times heavier than an electron?

- a. 1636                      b. 1736                      c. 1836                      d. 1936

20. Radioactive rays are of

- a. 2 types                      b. 3types                      c. 4 Types                      d. 6types

21. Who put forward his atomic model in 1911?

- a. Rutherford                      b. Neil Bohr                      c. Aufbau                      d. Goldstein

22. The mass of an atom is concentrated in the

- a. Shell                      b. Energy level                      c. Orbit                      d. Nucleus

23. Atomic number shows the number of electrons or protons in an atom and is denoted by

- a. Z                      b. A                      c. N                      d. M

24. The maximum number of electron in a shell is found out by the formula

- a.  $2n$                       b.  $2/n^2$                       c.  $2n^3$                       d.  $2n^2$

25. Which particle is the lightest in the following?

- a. Electron                      b. Proton                      c. Neutron                      d. Particles

26. Which particles is heavier than others?

- a. Electron                      b. Proton                      c. Neutron                      d. Particles



## PERIODICITY OF ELEMENTS

1. Doberiner's classification was based on

- a. atomic number                      b. atomic mass                      c. physical behavior                      d. chemical behavior

2. Which one of these groups can make Doberiner's triads?

- a. Li, Na, K                      b. C, Br, S                      c. Ar, Sr, I                      d. tn, Se, Ca

3. According to Newland's Law of Octaves, with in the arrangement of elements, every eight element will have properties similar to the:

- a. first element                      b. Second-element                      c. third element                      d. fourth element

4. According to Law of Octaves, the properties of Li resemble with:

- a. Na                      b. Be                      c. Mg                      d. Cl

5. Which elements occupy the Peak of the curves of Lothar Meyer's graph?

- a. Alkali metals                      b. Alkaline earth metal                      c. Noble gases                      d. Halogens

6. Which one of these elements was suggested as transition element by Mendeleev?

- a. Ne                      b. Ni                      c. C                      d. N

7. K is allocated in:

- a. Group IA                      b. Group II A                      c. Group III A                      d. Group IVA

8. Mendeleev named the elements of group VII as:

- a. Alkali metals                      b. Alkaline earth metals                      c. Noble gases                      d. Transition elements

9. Na has valence 1, its group is

- a. I A                      b. II A                      c. I B                      d. II B

10. Mg is present in group II, what will be its valence?

a. 1

b. 2

c. 3

d. 4

11. The number of noble gases is?

a. 2

b. 8

c. 6

d. 4

12. According to Mendeleev's periodic table, which one of the element belongs to the group VII-A?

a. F

b. Ni

c. Ca

d. All of them

13. On what basis, Moseley arranged elements in periodic table

a. Atomic mass

b. Mass Number

c. Nucleon number

d. Atomic Number

14. The atomic number of K is.

a. 18

b. 19

c. 39

d. 20

15. How many groups were present in Mendeleev periodic table?

a. 8

b. 10

c. 7

d. 9

16. How many periods were in Mendeleev's periodic table?

a. 18

b. 12

c. 10

d. 7

17. How many groups are present in modern periodic table?

a. 18

b. 10

c. 8

d. 12

18. How many Periods are present in modern periodic table?

a. 18

b. 12

c. 10

d. 7

19. Group I to VIII of modern periodic table are further divided into two parts. What are these parts known as?

a. Sub-group A

b. Sub-group B

c. Both a and b

d. None of them

20. Where is group VII B placed in modern periodic table?



- a. on right side                      b. On left side                      c. at the center                      d. None of these



21. How many elements are present in first period of modern periodic table

- a. 2                                      b. 6                                      c. 7                                      d. 8

22. Which elements are present in first period of modern periodic table?

- a. H, He                                b. He, Li                                c. L, Be                                d. Be, B

23. How many elements are present in second period of the modern C table

- a. 2                                      b. 8                                      c. 18                                      d. 32

24. Which period of the periodic table is the longest?

- a. First                                      c. Sixth                                      c. Seven                                      d. Third

25. Which period of the modern periodic table is still incomplete?

- a. First                                      b. Third                                      c. Fifth                                      d. Seventh

26. Oxygen belongs to group VI A of the modern periodic table. How many electrons are present in the outer most shell of the atom?

- a. four                                      b. One                                      c. Two                                      d. six

27. Chlorine (Cl) belongs to group VII A of the modern periodic table. How many electrons are present in the outer most shell of its atom?

- a. four                                      b. seven                                      c. Two                                      d. six

28. There are 7 electrons in the outer most shell of Iodine. To which group of the modern periodic table it belongs?

- a. VI A                                      b. VIIA                                      c. VIIB                                      d. IVA

29. Which one of these metals occurs in liquid form at room temperature?

- a. Mercury                                b. Chlorine                                c. Barium                                d. None of them

30. Which element of group IA is none-metals?

- a. Hydrogen                      b. sodium                      c. Potassium                      d. Rubidium

31. Which of these elements are radioactive elements wholly?

- a. Alkali metals                      b. Halogens                      c. Actinides                      d. Lanthanides

32. Kg/mol is unit of?

- a. Ionization energy                      b. Electron affinity                      c. Atomic radii                      d. a and b

33. What is formed on the removal of electron from a neutral atom?

- a. Negative Ion                      b. Negative radical                      c. Positive ion                      d. Molecule

34. What happens to the energy of an atom when a positive ion is formed?

- a. remains constant                      b. it absorbed                      c. it is released                      d. None of them

35. What happens to the energy of an atom when a negative ion is formed?

- a. remains constant                      b. it absorbed                      c. it is released                      d. None of them

36. How ionization energy is decrease in group?

- a. From top to bottom                      b. From bottom to top                      c. From right to left                      d. From left to right

37. Which one of these has greatest ionization energy?

- a. Li                      b. Na                      c. K                      d. Rb

38. Which one of these is the relative tendency of an atom in a molecule to attract shared pair or electron to itself.

- a. electron affinity                      b. ionization energy                      c. Electro negativity                      d. None of these

**CHEMICAL BONDING**

1. The force which hold atoms together in molecule to another atom is called \_\_\_\_\_ bond:  
a. Co-ordinate covalent      b. Covalent bond      c. Ionic      d. Chemical bond
2. The bond which is formed by the transfer of one or more electrons from one atom or crystal is called \_\_\_\_\_ bond:  
a. Co-ordinate covalent      b. Covalent bond      c. Ionic      d. Chemical bond
3. The bond which is formed by the mutual sharing of electrons between the atoms called \_\_\_\_\_ bond:  
a. Co-ordinate covalent      b. Covalent bond      c. Ionic      d. Chemical bond
4. The bond which is formed by one sided sharing of pair of electrons is called \_\_\_\_\_ bond:  
a. Co-ordinate covalent      b. Covalent bond      c. Ionic      d. Chemical bond
5. The bond in MgO is:  
a. Co-ordinate covalent      b. Covalent bond      c. Electro-valent      d. Chemical bond
6. The shared pair of electrons which links the atoms in a molecule is known as \_\_\_\_\_ bond:  
a. Co-ordinate covalent      b. Covalent bond      c. Electro-valent      d. Chemical bond
7. Double covalent bond is denoted by:  
a. Single short line      b. Two short lines      c. Three short lines      d. None of these
8. The atom which supplies the pair of electrons for bond formation is known as:  
a. Acceptor      b. Donor      c. Receiver      d. None of these
9. Co-ordinate covalent bond is always formed between the two:  
a. Like atoms      b. Unlike atoms      c. Similar atom      d. Like and unlike atoms

10. The shared pair of electrons in a co-ordinate covalent bond is denoted by:

- a. A single line                      b. Double line                      c. An equal sign                      d. An arrow

11. Electronegative value of N is

- a. 3.0                                      b. 2                                      c. 1.3                                      d. 0.5

12. CHBr has a

- a. Non polar covalent bond      b. Ionic bond                      c. Polar covalent bond      d. hydrogen bond

13. The attraction that binds Na and Cl ions together is called

- a. Covalent bond                      b. Electrovalent bond      c. Polar covalent bond      d. none of these

14. In molten state ionic compounds are

- a. Good conductors                      b. bad conductors                      c. non conduct                      d. insulators

15. Covalent compounds are soluble in \_\_\_\_\_

- a. water                                      b. NaOH solution                      c. H<sub>2</sub>SO<sub>4</sub>                                      d. organic solvents

16. Energies of London forces are of:

- a. 1.10kg /ml                                      b. 4.08kg/ml                                      c. 14kg /ml                                      d. 5.20 kg/m.

17. Which bond is important in proteins and nucleic acids.

- a. Hydrogen bond                      b. Metallic bond                      c. Ionic bond                                      d. Covalent bond.

18. 4 is the electronegative value of

- a. Nitrogen                                      b. Chlorine                                      c. Hydrogen                                      d. Fluorine

19. Mg atom has

- a. 1 valence electron                      b. 2 valence electrons      c. 4 valence electrons      d. 6 valence electrons



## STATES OF MATTER

1. The number of common states of matter are:  
a. 4                                      b. 2                                      c. 3                                      d. None of them
2. Neither definite shape nor volume is the property of  
a. Solid                                      b. Gas                                      c. Liquid                                      d. None of them
3. The temperature at which the vapor pressure of a liquid becomes equal to its external pressure is called.  
a. Melting point                                      b. boiling point                                      c. Triple point                                      d. freezing point
4. The state of matter in which molecules are tightly packed and possess only transition motion is \_\_\_\_\_  
a. Gaseous state                                      b. Solid state                                      c. Liquid state                                      d. None of them
5. The process in which molecules escape from the surface of liquid is called.  
a. Sublimation                                      b. Evaporation                                      c. Boiling                                      d. Melting
6. The process in which solid directly changes to gas is called.  
a. Melting                                      b. boiling                                      c. Sublimation                                      d. None of them
7. Define volume but no definite shape is the property of:  
a. solid                                      b. liquid                                      c. gas                                      d. none of them
8. Change of state from solid to liquid is called:  
a. vaporization                                      b. Condensation                                      c. fusion                                      d. none of them
9. The temperature at which solid starts melting is called:  
a. boiling point                                      b. freezing point                                      c. melting point                                      d. none of them
10. The molecules neither slip nor slide over one another:  
a. solid                                      b. liquid                                      c. gas                                      d. none of them
11. The state of matter which has fixed volume due to intermolecular forces is:  
a. solid                                      b. liquid                                      c. gas                                      d. none of them
12. They have a fixed shape and a fixed volume  
a. solid                                      b. liquid                                      c. gas                                      d. none of them
13. They have no fixed shape and no fixed volume:  
a. solid                                      b. liquid                                      c. gas                                      d. none of them
14. The kinetic energy of molecules increases on:  
a. Heating                                      b. Cooling                                      c. Subliming                                      d. Condensing
15. If a solid directly changes from solid to gaseous state, without changing into liquid first, the process is called

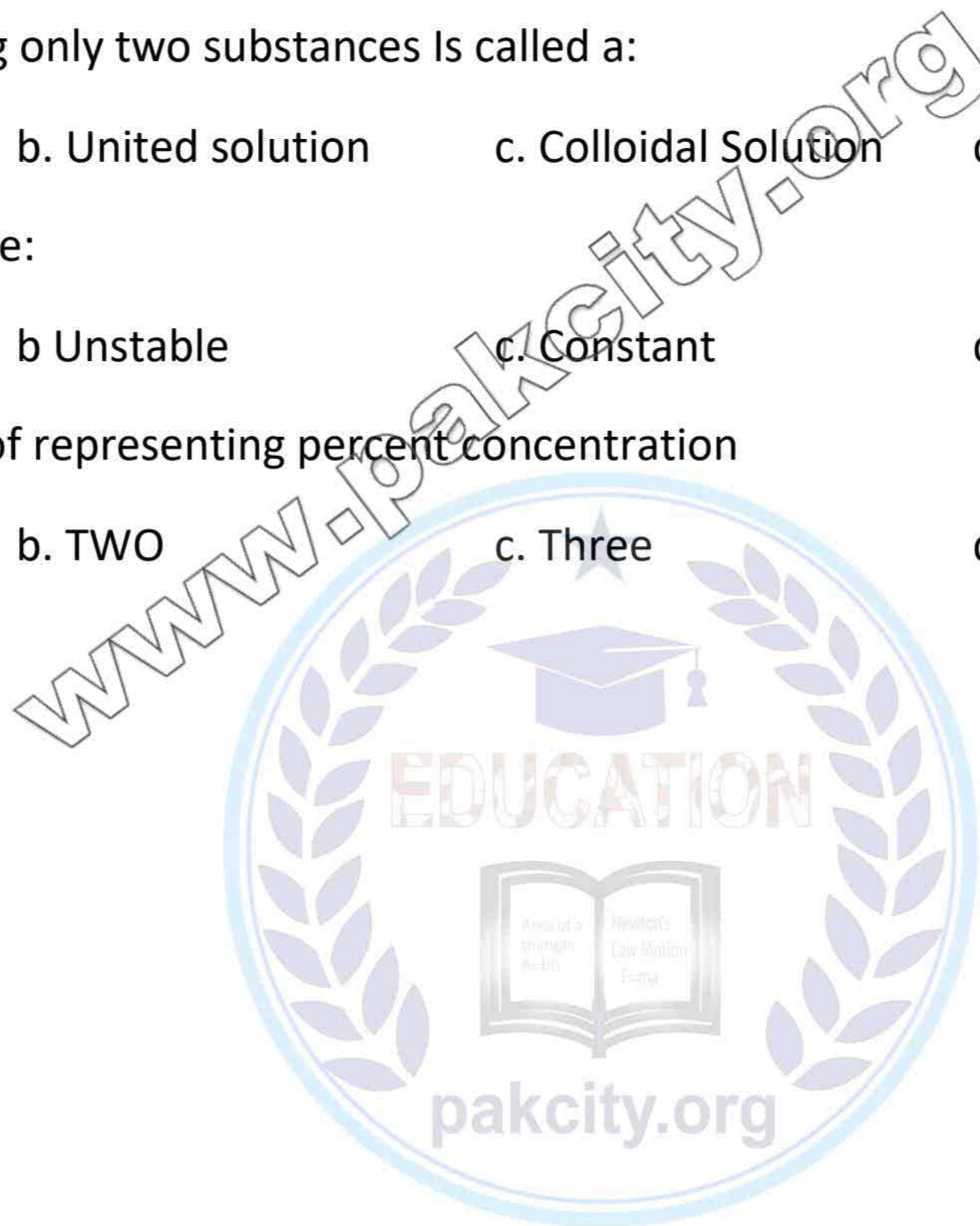
- a. Condensation                      b. Sublimation                      c. Evaporation                      d. Distillation
16. The temperature at which the vapor pressure of a liquid becomes equal to the external or atmospheric pressure is called its:
- a. Melting point                      b. vaporation point                      c. Boiling point                      d. Cooling point
17. The fast continuous and zigzag movement of suspended particles in a medium is called:
- a. Variable movement                      b. Constant movement                      c. Uniform movement                      d. Brownian movement
18. Which molecules have least kinetic energy?
- a. Liquids                      b. Gases                      c. Solids                      d. Colloids
19. Cohesive forces are weakest among the molecules of:
- a. Liquids                      b. Gases                      c. Solids                      d. Colloids
20. On heating evaporation
- a. Increases                      b. Stops                      c. Decreases                      d. Remains the same
21. Which energy increases when solids are heated?
- a. Potential                      b. Kinetic                      c. Nuclear                      d. Tidal
22. The movement of molecules from a region of higher concentration to lower concentration is called:
- a. Diffusion                      b. Hydrolysis                      c. Evaporation                      d. Condensation
23. The process of diffusion is very fast in:
- a. Liquids                      b. Gases                      c. Solids                      d. Colloids
24. The number of common states of matter.
- a. 1                      b. 4                      c. 5                      d. None of them
25. Neither definite shape nor is the property of:
- a. Liquids                      b. Gases                      c. Solids                      d. None of these
26. The process in which molecules escape from the surface of liquid is called:
- a. Evaporation                      b. Melting                      c. boiling                      d. None of them

**Solution & Suspension**

- The suspended particles in suspensions are generally of the size.
  - 10nm
  - 100nm
  - 100nm
  - 1mm
- The sum of the mole fractions of solute and solvent is equal to:
  - 0
  - 100
  - 2
  - 1
- Solubility is defined as the amount of solute in solvent temperature, dissolved in of the solvent.
  - 20g
  - 200g
  - 100g
  - 0g
- The process in which a solid directly changes to vapors is known as.
  - Sublimation
  - Evaporation
  - Diffusion
  - Fusion
- The solubility of a gas \_\_\_\_\_ with the rise in temperature.
  - Increase
  - Decrease
  - Normal
  - None of these
- A homogeneous mixture of two or more substance is called:
  - solute
  - solvent
  - solution
  - none of these
- When water is solvent the solution is called solution.
  - saturated
  - unsaturated
  - aqueous
  - supersaturated
- Which type of mixture is cloud?
  - Gas in gas
  - gas in liquid
  - solid in gas
  - liquid in gas
- Which type of mixture is air?
  - gas in gas
  - Gas in solid
  - gas in liquid
  - liquid in solid
- How many types of solutions are produced on mixing solid, liquid and gas?
  - 8
  - 6
  - 9
  - 6
- The solubility of sugar in water at 100°C is:
  - 179 g/100ml
  - 487 g/100ml
  - 189.9 g/100ml
  - 478 g/100ml
- The solubility of a \_\_\_\_\_ in a liquid is directly proportional to the pressure
  - solid
  - gas
  - liquid
  - none of above
- A solution containing less solute than its capacity to dissolve is
  - supersaturated solution
  - saturated solution
  - aqueous solution
  - Unsaturated solution
- When number of moles of solute are dissolved in 1 liter (1 dm<sup>3</sup>) of a solution, than solution is said to be:
  - normal solution
  - moral solution
  - percentage solution
  - polar solution
- It is heterogeneous mixture:



- a. solution                      b. Suspension                      c. solute                      d. none of these
16. Homogenous mixture of solute and solvent is called a:
- a. Solvent                      b. Solute                      c. Solution                      d. Suspension
17. The solution that contains 1 mole of solute in 1 dm<sup>3</sup> of solution is called a:
- a. Normal                      b. Saturated                      c. Mole                      d. Molar
18. 2 mole of water is equal to:
- a. 18 g                      b. 36 g                      c. 56 g                      d. 46g
19. One liter is equal to:
- a. 100 cm<sup>3</sup>                      b. 10 cm<sup>3</sup>                      c. 500 cm<sup>3</sup>                      d. 1000 cm<sup>3</sup>
20. A solution formed by mixing only two substances is called a:
- a Binary solution                      b. United solution                      c. Colloidal Solution                      d. Saturated solution
21. Supersaturated solutions are:
- a. Stable                      b Unstable                      c. Constant                      d. Volatile
22. There are how many ways of representing percent concentration
- a. one                      b. TWO                      c. Three                      d. Four



## ELECTROCHEMISTRY

1. The branch of chemistry that deals with the study of relationship between electrical and chemical energy is called:  
a. Thermo chemistry                      b. Physical chemistry                      c. Electrochemistry                      d. Analytical chemistry
2. The substance used for electrolysis is called:  
a. Electrolyte                                      b. Non-Electrolytic                      c. solution                                      d. None
3. Sodium chloride melts at  
a. 7500 °C                                      b. 850°C                                      c. 700 °C                                      d. 800 °C
4. Electrodes are made of  
a. metals                                      b. non-metals                                      c. metalloids                                      d. alloys
5. The quantity of charge deposited or liberates exactly one-gram equivalent of a substance is  
a. Ampere                                      b. Coulomb                                      c. Faraday                                      d. Electro chemical equivalent
6. The process of coating one metal onto another is called  
a. chemical process                      b. electroplating                      c. painting                                      d. none of these
7. Faraday is equivalent to  
a. 96000 Coulombs                      b. 9650 Coulombs                      c. 95600 Coulombs                      d. 96500 Coulombs
8. Which one of these is not electrolyte?  
a. Sodium chloride solution                      b. Acidulated water                      c. sugar                                      d. Sodium hydroxide solution
9. The unit of electro chemical equivalent is  
a. Ampere                                      b. Coulomb                                      c. gm/coulomb                                      d. Kg/coulomb
10. In dry cell electrolyte is the moist paste of  
a.  $\text{NH}_4\text{Cl} + \text{MnO}_2$                       b.  $\text{MnO}_2 + \text{ZnCl}_2$                       c.  $\text{NH}_4\text{C} + \text{ZnCl}_2$                       d.  $\text{NH}_4\text{Cl} + \text{ZnSO}_4$
11. A weak electrolyte is:  
a. Sulphuric acid                                      b. Nitric acid                                      c. Caustic alkali                                      d. Citric acid
12. The electrolysis of fused sodium chloride is carried out in:  
a. Galvanic cell                                      b. Voltaic cell                                      c. Down's cell                                      d. Dry cell
13. The electrodes used in the electrolytic cell to carry out electrolysis of water are made of:  
a. Platinum                                      b. carbon                                      c. Graphite                                      d. Copper
14. During electrolysis of which hydrogen is released at the cathode and oxygen is released at the anode?  
a. Water                                      b. NaCl                                      c. HgO                                      d.  $\text{H}_2\text{O}_2$
15. one Faraday has

- a. 96,500 C                      b. 94,500 C                      c. 93,9500 C                      d. 92,500C
16. The deposition of a metal on another metal is called
- a. Electrolysis                      b. Oxidation                      c. Reduce                      d. Electroplating
17. In electroplating, the thing to be electroplated is made the:
- d. Anode                      b. Electrolytic cell                      c. Cathode                      d. Electrolyte
18. In which cells, oxidation loss of electrons occurs at anode and reduction gain of electrons occurs at cathode?
- a. Electrochemical                      b. Electrolytic                      c. Primary                      d. Secondary
19. Any device that converts chemical energy into electrical energy or electrical energy into chemical energy is
- a. Electrochemical cell                      b. Electrolytic cell                      c. Photo cell                      d. Pencil cell



## CHEMICAL ENERGETICS

1. In an exothermic reaction.

- a Heat energy is lost  
b. Heat energy is gained  
c. Heat energy is lost as well as gained  
d. None of them

2. In an exothermic reaction.

- a Container becomes hot  
b. Container becomes cold  
c. The temperature of container remains the same  
d. None of them

3. During an endothermic reaction.

- a Container becomes hot  
b. Container becomes cold  
c. The temperature of container remains the same  
d. None of them

4. The heat evolved during the formation of 1 mole of water from  $H_2$  and  $O_2$  is.

- a 286 Kilo Joules/mol  
b. 186 Kilo joules/mol  
c. 300 Kilo joules/mol  
d. 200 Kilo joules/mo.

5. The formation of water from  $H_2$  and  $O_2$  is example of \_\_\_\_\_ reaction

- a. Exothermic  
b. Endothermic  
c. Neutralization  
d. None of them

6. In endothermic reaction heat is

- a. neither absorbed nor evolved  
b. evolved  
c. absorbed  
d. none of them

7. In endo thermic reaction:

- a. neither absorbed nor evolved  
b. evolved  
c. absorbed  
d. none of them

8. The Branch of chemistry which deals with the study of heat changes in chemical reaction is called:

- a. biochemistry  
b. inorganic chemistry  
c. thermo-chemistry  
d. organic chemistry

9. During the combustion of coal, energy released is:

- a 890 KJ/mole  
b. 286 KJ/mole  
c. 3.53 KJ/mole  
d. 393.7 KJ/mole

10. Using exothermic reaction to warm food, the temperature of food reaches to:

- a.  $60^\circ C$   
b.  $50^\circ C$   
c.  $55^\circ C$   
d.  $60.5^\circ C$

11. The fameless radiation heater contains a mixture of:

- a. Mg, Ca and  $H_2O$   
b. Mg, Ca and NaCl  
c. Mg Na and  $H_2O$   
d Mg, Fe and NaCl

12. Which of the following reaction is endothermic?

- a. Combustion of Coal  
b. burning of Methane  
c. The formation of  $H_2O$   
d. The decomposition of  $H_2O$

13. The reaction between an acid and base to form salt and water is called:

- a Neutralization  
b. decomposition  
c. Addition  
d. None of These

14. The formation of NO from  $\frac{1}{2}$  N<sub>2</sub> and  $\frac{1}{2}$  O<sub>2</sub> is an example of \_\_\_\_\_ reaction
- a. neutralization                      b. exothermic                      c. endothermic                      d. none of these
15. When methane is burnt amount of heat released is:
- a. 286 KJ/mole                      b. 890 KJ/mole                      c. 296 KJ/mole                      d. 92.0 KJ/mole



Chapter	
1	d. Al-Razi
2	b. carbon dioxide
3	a. chlorine
4	c. Mendeleev
5	d. Biochemistry
6	a. Physical chemistry
7	b. Four
8	a. Jabir-bin Haiyan
9	a. Facts
10	a. Law
11	d. Berzelius
12	d. Faraday
13	a. Oxygen constituted about one fifth of air
14	a. Radioactivity
15	c. Jabir Bin Hayan
16	a. Fact
17	b. experiment
18	b. Four
19	c. J Berzelius
20	a. Jabir Bin Hayan
21	c. Combustion
22	a. 600-1600 A.D
23	b. Fluorides
24	c. Law
25	b. Jabir Bin Hayan

Chapter #	
1	a. conservation of mass
2	c. John Dalton
3	b. PbS
4	b. formula
5	b.200g
6	a. 1moles
7	d. decomposition reaction
8	b. combustion reaction
9	d. double displacement
10	c. co-efficient
11	b. heat
12	d. 60g
13	a. Avogadro's Number
14	c. addition reaction
15	a. particles
16	c. Empirical formula
17	a. C-12
18	c. Avogadro numbers of particles
19	b. $6.02 \times 10^{23}$
20	d. CH
21	c. 44
22	b. 1:8
23	d. Molar mass
24	a. Right
25	c. two way reversible

Chapter #	
1	b. Protons and neutrons
2	a. Electron
3	c. Neutron
4	a. $9.11 \times 10^{-28}$ g
5	d. $1.67 \times 10^{-24}$ g
6	b. $1.6 \times 10^{19}$ C
7	b. Dalton
8	c. J.J. Thomson
9	c. Neutron
10	a. Alpha rays
11	d. Positive rays
12	c. bounced
13	c. 8
14	b.2
15	a. neutrons
16	a.1
17	b. Fluorescence
18	c. No Charge
19	c. 1836
20	b. 3types
21	a. Rutherford
22	d. Nucleus
23	a. Z
24	d. $2n^2$
25	a. Electron
26	c. Neutron

Chapter #	
1	d. chemical behavior
2	a. Li, Na, K
3	a. first element
4	a. Na
5	a. Alkali metals
6	b. Ni
7	c. Group III A
8	d. Transition elements
9	a. I A
10	b. 2
11	c. 6
12	d. F
13	d. Atomic Number
14	b. 19
15	a. 8
16	b. 12
17	c. 8
18	d. 7
19	c. Both a and b
20	a. on right side
21	a. 2
22	a. H, He
23	b. 8
24	c. Sixth
25	d. Seventh
26	d. six
27	b. seven
28	b. VIIA
29	a. Mercury
30	a. Hydrogen
31	c. Actinides
32	d. a and b
33	c. Positive ion
34	b. it absorbed
35	c. it is released
36	a. From top to bottom
37	a. Li
38	c. Electro negativity

Chapter #	
1	d. Chemical bond
2	c. Ionic
3	b. Covalent bond
4	a. Co-ordinate covalent
5	c. Electro-valent
6	b. Covalent bond
7	b. Two short lines
8	b. Donor
9	b. Unlike atoms
10	d. An arrow
11	a. 3.0
12	c. Polar covalent bond
13	b. Electrovalent
14	a. Good conductors
15	d. organic solvents
16	a. 1.10kg /ml
17	a. Hydrogen bond
18	c. Hydrogen
19	b. 2 valence electrons
20	a. water
21	a. One atom
22	c. Donor
23	b. Covalent bond
24	b. Covalent bond
25	C. three short lines
26	d. An arrow

Chapter #	
1	c. 3
2	b. Gas
3	b. boiling point
4	b. Solid state
5	b. Evaporation
6	c. Sublimation
7	b. liquid
8	c. fusion
9	c. melting point
10	a. solid
11	b. liquid
12	a. solid
13	c. gas
14	a Heating
15	d Distillation
16	c. Boiling point
17	d. Brownian movement
18	c. Solids
19	b. Gases
20	a. Increases
21	b. Kinetic
22	a Diffusion
23	b. Gases
24	d. None of them
25	b. Gases
26	b. Melting

Chapter #	
1	c. 100nm
2	d 1
3	c.100g
4	a Sublimation
5	b. Decrease
6	c. solution
7	c. aqueous
8	d. liquid in gas
9	a. gas in gas
10	c. 9
11	b. 487 g/100ml
12	b. gas
13	d. Unsaturated solution
14	b. moral solution
15	b. Suspension
16	c. Solution
17	d. Molar
18	b. 36 g
19	d. 1000 cm <sup>3</sup>
20	a Binary solution
21	b Unstable
22	d. Four

Chapter #	
1	c. Electrochemistry
2	a Electrolyte
3	d. 800 oC
4	a. metals
5	c. Faraday
6	b. electroplating
7	d. 96500 Coulombs
8	c. sugar
9	d. Kg/coulomb
10	c. NH <sub>4</sub> C+ZnCl <sub>2</sub>
11	d Citric acid
12	c. Down's cell
13	a Platinum
14	a. Water
15	a. 96,500 C
16	d. Electroplating
17	c. Cathode
18	a. Electrochemical
19	a Electrochemical cell

1	a Heat energy is lost
2	a Container becomes hot
3	b. Container becomes cold
4	a 286 Kilo Joules/mol
5	a. Exothermic
6	c. absorbed
7	b. evolved
8	c. thermo-chemistry
9	d. 393.7 KI/mole
10	a. 60oC
11	d Mg, Fe and NaCl
12	d. The decomposition of H <sub>2</sub> O
13	a Neutralization
14	c. endothermic
15	b. 890 KJ/mole
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