CHEMISTRY

Questions: 40 **Marks: 160**

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CHAPTER - 1

NATURE OF MATTER

1. Anything that occupies space and has mass is called :
   a) Element b) Matter
   c) Compound d) Mixture

2. Simplest form of pure substance which can't be broken nor built from simpler substances is :
   a) mixture b) Compound
   c) Element d) None of these

3. State of matter that has neither a fixed shape nor a fixed volume is called
   a) Solid b) Liquid
   c) Gas d) Mixture

4. Common salt is an example of
   a) mixture b) Compound
   c) Element d) All of these

5. The main characteristic that distinguishes solids from liquids & gases is:
   a) Rigidity b) Evaporation
   c) Volatility d) Melting point

6. Which of following is not a homogeneous mixture
   a) Air b) Brass
   c) Soloution of sugar in water
   d) Smoke

7. The attractive force operating among molecule is known as:
   a) Inter atomic force
   b) inter molecular force
   c) Gravitational force
   d) None of them

8. As temperature rises the kinetic energy of molecules
   a) Decrease b) Increases
   c) Remain same
   d) deaccelerate

9. The molecule in solid possess _____ kinetic energy as compared to liquid & gases
   a) Equal b) More
   c) Less d) Equal & less

10. Out of which one have maximum movement of particals.
    a) Solids b) Liquids
    c) Gases d) All oft these

11. Name of physical state of matter which can be easily compressed
    a) Solid b) Liquid
    c) Gas d) Alloy

12. The basic form of matter that cannot be broken into simple substances by chemical reaction is called
    a) Element b) Compound
    c) Mixture d) None of the above

13. Elements which are Liquid at room temperature are
    a) Sodium & Potassium
    b) Nitrogen and fluorine
    c) Iodine
    d) Mercury and Bromine

14. _____ is the lightest element
    a) Hydrogen b) Helium
    c) Lithium d) Sodium

15. Symbol of mercury is
    a) M b) My
    c) Hg d) Hm

16. Zn is the symbol of
    a) Tungsten b) Uranium
    c) Vanadium d) Zinc

17. Symbol of Cadmium
    a) C b) Ca
    c) Cd d) Cm

18. A substance made up of two or more elements chemically combined together in a fixed proportion by mass
    a) Compound b) Mixture
    c) Solution d) colloid

19. Name the process due to which dry ice changes into CO_2 gas
    a) freezing b) Sublimation
    c) Condensation d) None of them

20. Mixtures are of ..... types:
    a) 3 b) 4
    c) 2 d) None of them

21. Chemical name of dry ice
    a) CO_3 b) NO_2
    c) CO_2 d) COOH

22. The substance used in larger amount while preparing a solution is taken as
    a) Solute b) Solvent
    c) Mixture d) Compound

23. A solution in which no more solute can be dissolved at a particular temperature is known as:
    a) Unsaturated solution
    b) Saturated solution
    c) True solution
    d) Super saturated solution

24. A solution that contains more solute than that required for saturation at a particular temperature is called
    a) Unsaturated solution
    b) saturated solution
    c) True solution
    d) super saturated solution

25. A heterogeneous mixture in which size of solute particles is more than 100nm or 10^{-7}m is called:
    a) True solution b) False solution
    c) Suspension
    d) Colloidal solution

26. What is the physical state of water
    a) at 0°C b) at 25°C
    c) at 100°C d) at 200°C

27. Muddy water is an example of
    a) True solution
    b) suspension
    c) Colloidal solution d) none of these

28. Air is a -
    a) Element b) Compund
    c) Mixure d) all of these

29. The property due to which colloidal particles can scatter light falling upon them is called:
    a) Tyndall effect
    b) Brownian movement
    c) Electrophoresis
    d) Dispersion

30. The zigzag movement of colloidal particles is called
    a) Rutherford's movement
    b) collision movement
    c) Scattering movement
    d) Brownian movement

31. Sb is an example of
    a) Metal b) Non-metal
    c) Metalloid d) None of these

32. Fog and mist are example of:
    a) Aerosol b) Emulsion
    c) Sol d) Foam

33. Face cream is an example of:
    a) Aerosol b) emulsion
    c) Sol d) Foam

34. Gem stones are example of:
    a) Alloy b) Sol
    c) Solid sol d) Aerosol

35. Rate of diffusion is fater in
    a) Solid b) Liquid
    c) Gases d) alloy

36. Which instrument is used to measure atmospheric pressure
    a) thermometer b) Barometer
    c) Manometer d) all of above

37. Law of conservation of mass was given by:
    a) Lavoisier b) Dalton
    c) Rutherford d) De Broglei

38. The smallest particle of an element is:
    a) Atom b) Molecule
    c) Compound d) Metal

39. H_2 is an example of:
    a) Homo atomic molecule
    b) Heteroatomic molecule
    c) Hetro-homo atomic
    d) Atom

40. 1 moles is
    a) Collection of 6.02 * 10^{23} particles of a substance
    b) Collection of 6.02 * 10^{-23} particles of a substance
    c) Collection of $1/_{6.02}$*10^{23} particles of a substance
    d) none of the above

41. The no. of moles in 8gm of O_2 is:
    a) 1 Mole b) 2 Moles
    c) 0.5 Mole d) 0.25 Moles

42. Avogadro's molecule number:
    a) 6.02×10^{23} particles
    b) 6.02×10^{-23} particles
    c) $1/6.02 \times 10^{23}$
    d) $1/6.02 \times 10^{-23}$

43. Aqueous solution is obtained by dissolving a substance in
    a) Ether
    b) carbon tetra chloride
    c) Acetone
    d) Water

44. H_2 is an example of:
    a) Homo atomic molecule
    b) Heteroatomic molecule
    c) Hetero- homo atomic molecule
    d) atom

45. Molecular formula and emperial formula are related as :
    a) Empiercal formula = n (Molecular formula)
    b) Molecular formula = n (Empirical formula)
    c) Molecular formula = n + (Empirical formula)
    d) Molecular formula = n – (Empirical formula)

(Key)

Chapter - 1

Nature of Matter

1.b	2. c	3. c	4. b	5. b
6. b	7. b	8. b	9. b	10. c
11. c	12. a	13. d	14. a	15. c
16. d	17. c	18. a	19. b	20. c
21. c	22. b	23. b	24. d	25. c
26. a	27. b	28. c	29. a	30. d
31. c	32.a	33. b	34. c	35. c
36. b	37. a	38. a	39. a	40. a
41. d	42. b	43. d	44. a	45. b

CHAPTER - 2

STRUCTURE OF ATOM

1. The electron was discovered while studying the properties:
   a) Anode Ray b) Cathode Rays
   c) X Rays d) ãRays

2. Electron was discovered by:
   a) Milikan b) J.J Thomson
   c) Rutherford d) Dalton

3. Neutron is
   a) positively b) negatively charged
   c) Neutral
   d) none of the above

4. Electron is:
   a) positively charged
   b) negatively charged
   c) Neutral
   d) none of the above

5. Heaviest particle is :
   a) Meson b) Neutron
   c) Proton d) Electron

6. An example of non radioactive element is
   a) Uranium b) Polonium
   c) Thorium d) Sodium

7. Alpha particles are a stream of
   a) Electrons b) Protons
   c) nucleiof helium atom having 2 unit positive charge
   d) nuclei of helium

8. Most penetrating radioactive radiations are:
   a) Alpha Rays b) Beta Rays
   c) Gamma Rays d) X Rays

9. Atomic number of an element is equal to:
   a) No. of protons
   b) No. of neutrons
   c) total no of protons & neutrons
   d) total no. of protons & electrons

10. Number of Neutrons in heavy Hydrogen is:
    a) 0 b) 1
    c) 2 d) 3

11. The electronic configuration of element with atomic no 17 will be
    a) 2,8,5 b) 2,8,7
    c) 2,7,5 d) 2,7,8

12. Valence shell of an atom is:
    a) the innermost shell
    b) shell next to the innermost shell
    c) penultimate shell
    d) outermost shell

13. Atoms having same mass no. but different atomic number are called
    a) isotopes b) isobars
    c) isotones c) isomars

14. The credit of discovery Neutron goes to:
    a) Rutherford b) Langmuir
    c) Chadwick c) Austen

15. _____ deflect towards cathode
    a) Alpha particles
    b) Beta particles
    c) Gama particles
    d) None of the above

16. _____ have no charge.
    a) Alpha rays
    b) Beta rays
    c) Gamma rays
    d) None of the above

17. Matter is made up of extremely small particles, is called atoms. This is in accordance with:
    a) Dalton's Atomic Theory
    b) Avagaldro's Theory
    c) Bohr's model
    d) Rutherford's Model

18. When Electrons revolve in sationary orbits:
    a) There is no change in energy level
    b) They become stationary
    c) There is increase in energy
    d) None of them

19. The e/m value of electron was discovered by
    a) Rutherford b) Millikan
    c) J.J. Thomson d) Wien

20. The e/m value of electron is
    a) 1.76×10^{11} C/kg
    b) 1.69×10^{-19} C/kg
    c) 1.76×10^{21} C/kg
    d) 1.67×10^{-21} C/kg

21. Charge on the cathode ray particles was found by
    a) Millikan b) Thomson
    c) Rutherford d) Dalton

22. The charge on electron is
    a) 1.67×10^{-21} C
    b) 1.602×10^{-23} C
    c) 1.602×10^{-19} C
    d) 1.76×10^{-19} C

23. The mass of an electron is
    a) 9.1×10^{-28} g b) 9.1×10^{-31} g
    c) 1.6×10^{-19} g d) 1.6×10^{-28} g

24. The discovery of proton was done by
    a) Thomson b) Rutherford
    c) Goldsteen d) Millikan

25. The charge on Anode Rays was given by
    a) Millikan b) Thomson
    c) Wien d) Dalton

26. One fermi is
    a) 10^{-13}cm b) 10^{-15}cm
    c) 10^{-10}cm d) 10^{-12}cm

27. The mass of a proton is
    a) 1.67×10^{-24} gms
    b) 1.67×10^{-27} gms
    c) 9.1×10^{-27} gms
    d) 9.1×10^{-31} gms

28. The neutron was discovered by
    a) Roentgen b) J.J Thomson
    c) Rutherford d) Chadwick

29. The element which has no neutron is
    a) Hydrogen b) Oxygen
    c) Helium d) Chlorine

30. X-rays were discovered by
    a) Roentgen b) Beaquerel
    c) Rutherford d) Chadwick

31. Radioactivity was discovered by
    a) Roentgen b) Polonium
    c) Becquerel d) Madam Curie

32. The Plum Pudding Model of atom was given by
    a) Roentgen b) J.J Thomson
    c) Rutherford d) Chadwick

33. The radius of neucleus is of the order of
    a) 10^{-10} m b) 10^{-15} m
    c) 10^{-20} m d) 10^{-5} m

34. Neucleus was discovered by
    a) Millikan's oil drop method
    b) Thomson cathode ray expt
    c) Rutherford's á scatteringexperiment
    d) Curie's Experiment

35. An atom bomb work on the principle of
    a) Nuclear Fussion
    b) Nuclear Reaction
    c) Nuclear Fission
    d) Nuclear reactor

36. α particles are
    a) H^+ b) He^{++}
    c) H_2^{2+} d) D^{++}37.

37. Chemical reactivity of an element depends upon
    a) No. of protons
    b) No. of electrons
    c) No. neutrons
    d) None of them

38. $_{18}As^{20}$ and $_{20}Ca^{40}$ are examples of
a) isotopes b) isomers
c) isobars d) isotones

39. Protium, Deuterium and tritium are
a) isotopes b) isomers
c) isobars d) isotones

40 Nucleons are nothing but
a) Protons and electrons
b) electrons and positions
c) neutrons and protons
d) nucleus and protrons

41. If A and B atoms have same number of protons and electrons, but different no. of neutrons, then A and b are
a) isotopes b) isomers
c) isobars d) none of these

42. Elements have different atomic number but same mass no. are called
a) isotopes b) isomers
c) isobars d) isotones

43. The entire mass of an atom is mainly concentrated at the
a) Shell b) Orbital
c) Nucleus d) Neutron

44. The largest stable nucleus is
a) U-238 b) U-235
c) Pb-206 d) Bi-209

45. According to Bohr's Model of atom, electrons revolve around the nucleus is fixed……. path
a) cylinderical b) circular
c) elliptical d) parabolic

46. Any given shell can accommodate_____ no of electrons
a) n^2 b) $4n^2$
c) $2n^2$ d) $4ð^2$

47. The main drawback of Rutherford's Model of atom was that
a) It explains the planetary motion of electrons.
b) It could explain the hydrogen spectrum.
c) It could explain the stability of atom.
d) It could not explain the stability of atom.

48. When an electron moves from higher orbit to lower orbit, energy is
a) emitted
b) not transfered
c) absorbed d) Zero

49. The maximum number of electrons that a shell can accomodate is given by the formule
a) 2n b) $2n^3$
c) $2n^2$ d) $2n^{2n}$

50. The electrons configuration of elements with atomic no. 14 will be
a) 2,7,5 b) 2,4,8
c) 2,8,4 d) 4,2,8

51. Which sub atomic particals is electrically neutrals
a) Electrons b) Protons
c) Neutrons d) Beta - particals

52. The number of valence electrons in hydrogen ion(H^+) is /are
a) Zero b) One
c) Two d) Three

53. _____is the fourth state of matter
a) Solid b) Gas
c) Liquid d) Plasma

54. The electronic configuration of element 'X' is 2,8,6. The atomic number of the element must be
a) 10 b) 8
c) 2 d) 16

55. The outermost shell around the necleus can have maximum numbers of electrons
a) 4 or 2 b) 3 or 6
c) 2 or 8 d) 4 or 5

56. Half life period is
    a) Time taken to complete one reaction
    b) Time taken by a radio isotope to disintegrate to one half of its original amount.
    c) Half of the periodic table
    d) None

57. The noble gases are inert because
    a) They have 8 electrons in the valence orbit.
    b) They have 18 electrons in the valence orbit.
    c) They have d orbitals.
    d) They have s and p orbitals.

58. The method of estimating the age of old objects on the basis of radioactivity is called
    a) Radioactive Dating
    b) Radiochemical ageing
    c) Radiochemical dating
    d) Radioactive ageing

59. Mostly neuclear reactions are caused by -
    a) Positrons b) Charged particles
    c) Neutrons d) Protons

Key)

CHAPTER - 2 (STRUCTURE OF ATOM)

1 B	2 B	3 C	4 B	5 B	6 D	7 C
8 C	9 A	10 B	11 B	12 D	13 A	14 C
15 A	16 C	17 A	18 A	19 C	20 B	21 A
22 C	23 A	24 C	25 C	26 A	27 A	28 B
29 A	30 C	31 A	32 D	33 B	34 B	35 C
36 B	37 B	38 D	39 A	40 C	41 A	42 B
43 C	44 A	45 B	46 C	47 D	48 A	49 C
50 C	51 C	52 A	53 D	54 D	55 C	56 B
57 A	58 C	59 B				

CHAPTER - 3

CLASSIFICATION OF ELEMENTS

1) Mendeleef's periodic law is based upon :
   a) Atomic number
   b) Atomic weight
   c) Number of Neutron
   d) None of them

2) The first attempt to classify elements was done by:
   a) Newland b) Mendeleev
   c) Dobernair d) Mosley

3) Law of Octaves was given by :
   a) Doberenier b) Newland
   c) L.M meyer d) Mendleef

4) Mendeleev's Periodic law states that properties of elements are a periodic function of their :
   a) Atomic mass b) Neutrons
   c) Atomic Numbers d) Electrons

5) In the original periodic table of Mendeleev there are:
   a) Eight periods and six groups
   b) Six periods and eight groups
   c) Seven periods and eighteen groups
   d) Six periods and eighteen groups

6) In the Mendeleev's periodic table, the eight group contains:
   a) Noble gases
   b) Halogens
   c) Inner transition elements
   d) Transition elements

7) The modern periodic law was given by:
   a) Newland b) Mendeleev
   c) Dobernair d) Mosley

8) The cause of periodicity is:
   a) Increasing atomic number
   b) Increasing atomic mass
   c) Number of electron in valance shell
   d) The recurrence of similar outermost electronic configuration

9) The modern periodic table consists of:
   a) Seven group and eighteen periods
   b) Eighteen group and seven periods
   c) Six periods and eight groups
   d) Eight periods and six groups

10) Elements of group I and 2 are called:
   a) s block elements
   b) p block elements
   c) d block elements
   d) f block elements

11) Elements of 13-18 groups are:
   a) s block elements
   b) p block elements
   c) d block elements
   d) f block elements

12) Elements of 3-12 groups are:
   a) s block elements
   b) p block elements
   c) d block elements
   d) f block elements

13) The modren periodic table known as long form of periodic table was made by:
   a) Lother meyer b) Neil Bohr
   c) Mendeleef d) Mosely

14) All noble gases except one have 8 electrons in their outermost shell is
   a) Ne b) He
   c) Ar d) Kr

15) Elements of group 18 are known as:
   a) Alkali metals
   b) Halogens
   c) Alkaline earth metals
   d) Noble gases

16) The number of elements placed in the fourth period is:
   a) 8 b) 18
   c) 32 d) 29

17) Which of the period of the periodic table contains the maximum number of elements?
   a) Fourth b) Sixth
   c) Fifth d) Seventh

18) Alkaline earth metals belongs to:
   a) s-Block b) p-Block
   c) d-Block d) f-Block

19) Non metals are placed on the……..... side of periodic table:
   a) Middle b) Right
   c) Diagonal d) Left

20) The horizontal rows in periodic table are called
   a) Group b) Shells
   c) Periods d) Horizonal lines

21) The common features of elements of same group in:
   a) Atomic no.
   b) No. of electronic shell
   c) Atomic size
   d) No. of valence electrons

22) The lightest metal is :
   a) Li b) Al
   c) Ca d) Mg

23) Which of the following at no. represents s block elements?
   a) 6, 12 b) 7, 12
   c) 9, 16 d) 11, 12

24) An element with at no 11 has:
   a) One electron in valence shell
   b) Two electrons in valence shell
   c) Seven electrons in valence shell
   d) Eleven electrons in valence shell

25) The elements in second period have:
   a) One electron shell
   b) Two electron shell
   c) Three electron in valence shell
   d) Four electron in valence shell

26) Which of the following is not a metal?
   a) Lithium b) Copper
   c) Gold d) Hydrogen

27) Which of the following is a metalloid
   a) Copper b) Boron
   c) Lithium d) Sodium

28) The member of same group in periodic tables are
   a) Li,Na,K b) B,C,N
   c) Al,Si,P d) K,Ca,S

29) Which one of these orbitals has sphericals shape
   a) S-orbitals b) P-orbitals
   c) d-orbitals d) f-orbitals

30) Element with highst m.p and b.p is:
   a) H b) He
   c) Ne d) None of them

31) Atomic radius is usually measured as:
   a) decameter b) meters
   c) nanometer d) picometer

32) Atomic radius is taken as:
   a) inter nuclear distance between two adjacent atoms of the same element
   b) inter nuclear distance between two adjacent atoms of the diff. element
   c) half of inter nuclear distance between two adjacent atoms of the same element

d) half of inter nuclear distance between two adjacent atoms of the diff. element

33) As we move from the top to bottom in a group the atomic radius:
a) Increases b) decreases
c) Increases and then decreases
d) remains same

34) The increasing order of the atomic radius is
a) Li > Be> B >C
b) B > C > Be>Li
c) Li > Be > B> C
d) C> B > Li > Be

35) The amount of energy required to remove completely the most loosely bound electrons from an isolated gaseous atom is called:
a) Electron Affinity
b) Ionisation energy
c) Lattice energy
d) Enthalpy

36) The number of electrons in the M shell is
a) 2 b) 8
c)18 d) 32

37) In a period of periodic table, the Ionisation Energy value:
a) decreases b) increases
c) remains same d) Increases

38) In a group of periodic table, the Ionisation Energy value
a) decreases b) increases
c) remains same
d) increases and then decreases

39) In a group of periodic table, the Ionisation energy value decreases from top to bottom because
a) density increases
b) electronegativity decreases
c) chemical reactivity
d) atomic size increases

40) The correct order of first ionisation energies is:.
a) Li=Na=K=Rb
b) Li<Na<K<Rb
c) Li>Na>K>Rb
d) Li<Na<Rb<K

41) Electron Affinity is:
a) the amount of energy required to remove an electron from a neutral atom
b) the amount of energy released when an electron is added to isolated gaseous atom.
c) the amount of energy released when a compound is formed
d) the amount of energy required to dissociate a compound

42) No two electrons in an atom can have the same set of 4 quantum number is given by
a) Bohr's Law
b) Aufbau Principle
c) Newton's Law
d) Pauli's Exclusion Principle

43) As we move from top to bottom in a group of the periodic table
a) metallic character remain same
b) metallic character deceases and then increases
c) metallic character increases
d) metallic character decreases

44) Example of metalloids are
a) Na,K,Ca,Mg
b) He,Xe,Ne,Ag
c) F,Cl,Br,I
d) B,Si,Ge,As

45) Metals occupy their position towards
a) left and central part of periodic table
b) right and central part of periodic table only
c) right of periodic table
d) only left of periodic table

46) Which of following belong to representative element:
   a) Lanthanium
   b) Argon
   c) Chromium
   d) Aluminum

47) Non metals are
   a) good conductor of heat
   b) bad conductor of heat
   c) lusterous
   d) high density

48) Metalloids have properties
   a) same as that of metals
   b) same as that of non metals
   c) Intermediates properties of both metals and nonmetals
   d) not similar properties as that of metals or non metals

49) The most electronegative elements among the following is
   a) F b) O
   c) Na d) S

(KEY)

CHAPTER - 3

CLASSIFICATION OF ELEMENTS

1 (a)	2 (c)	3 (b)	4 (c)	5 (b)
6 (d)	7 (d)	8 (d)	9 (b)	10 (a)
11 (b)	12 (c)	13 (b)	14 (b)	15 (d)
16 (b)	17 (b)	18 (a)	19 (b)	20 (c)
21 (d)	22 (a)	23 (d)	24 (a)	25 (b)
26 (d)	27 (b)	28 (a)	29 (a)	30 (a)
31 (d)	32 (c)	33 (a)	34 (a)	35 (b)
36 (c)	37 (b)	38 (a)	39 (d)	40 (c)
41 (b)	42 (b)	43 (d)	44 (d)	45 (a)
46 (d)	47 (b)	48 (c)	49 (a)	