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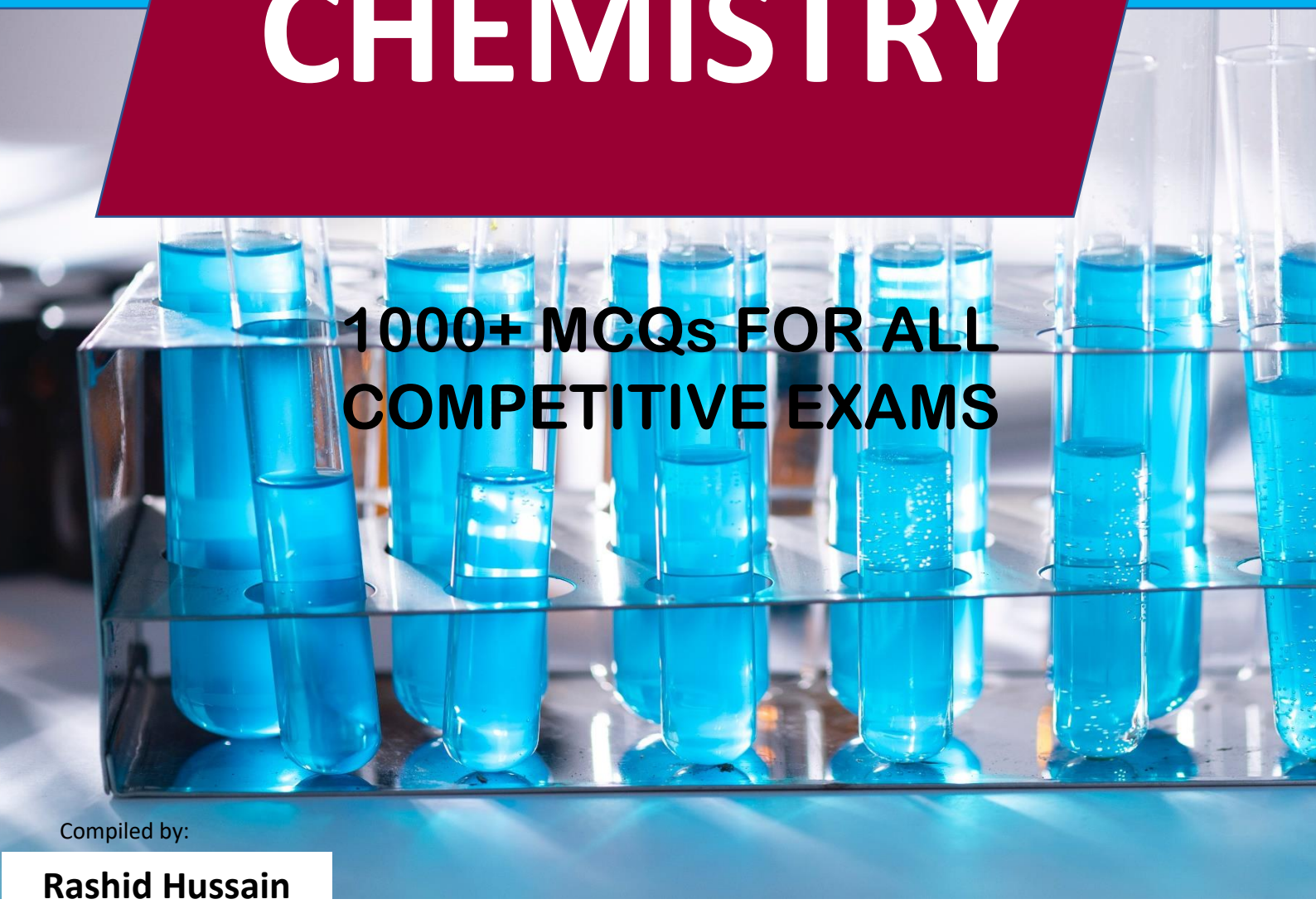
Multiple Choice QUESTIONS IN CHEMISTRY



1000+ MCQs FOR ALL COMPETITIVE EXAMS

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The soul of chemistry is dealing with_____?

A. Internal structural changes in matter
B. Composition of matter
C. Properties of matter
D. Composition and properties of matter

The radioactive isotope of hydrogen is called_____?

A. tritium
B. deuterium
C. protium
D. ortho-hydrogen

Electron was discovered by?

A. Michael Faraday
B. James Maxwell
C. Yuri Gagarin
D. J.J Thomson

Sodium carbonate is produced by_____?

A. haber process
B. Amonia solvay process
C. decons process
D. lead chamber process

Which of the following is a substance?

A. Sea water
B. Brass
C. Tape water
D. Graphite
E. Sand

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Some substances are good conductor of electricity in both the solid and liquid states. These substances are generally_____?

A. ionic substances
B. metallic substances
C. molecular solids
D. covalent network solids

All of the following substances are crystalline except_____?

A. Ice
B. Diamond
C. Sucrose
D. Plastic

Covalent network crystals have_____?

A. higher melting point then molecular crystals
B. lower melting point then molecular crystals
C. discrete molecules linked by Van der waals forces
D. hydrogen bonding

What is a mixture of Potassium Nitrate Powdered Charcoal and Sulphur called?

A. Paint
B. Glass
C. Gun Powder
D. Cement

Diameter of an atom is in the order of_____?

A. 0.2m
B. 0.2mm
C. 0.2nm
D. 0.2pm

Mass spectrometer is used to determine Mass number of isotopes and_____?

A. Atomic number
B. Relative abundance
C. Electronic configuration
D. All of the above

The number of peaks obtained in mass spectrometry shows_____?

A. Relative abundance
B. Average mass of element
C. Number of isotopes
D. Relative isotopic mass

Empirical formula of chloroform is_____?

A. CH2 C12
B. CH3C1
C. CC14
D. CHCL3
Read More Details about this Mcq

Molecular mass of water (18g) means_____?

A. 1-mole molecules of water
B. 1-gram molecule of water
C. 3-gram atoms
D. all

Which of the following statements about isotopes is correct ?

A. Isotopes with odd atomic number are abundant
B. Isotopes with odd atomic number and even mass number are abundant
C. Isotopes with even atomic number and even mass number are abundant
D. Isotopes with even atomic number and odd mass no are abundant

One mole of CO2 contains?

A. 6.022 x 1023 atoms of oxygen
B. 22-gram electrons
C. 6.022 x 1023 atms of carbon
D. both B. & C.

The number of isotopes of elements with even mass number and even atomic number are _____?

A. 280
B. 300
C. 154
D. 54

Which of the following terms is not used for ionic compound ?

A. formula unit
B. empirical formula
C. molecular formula
D. formula mass

moles of each aluminium and oxygen react with each other to produce aluminium oxide. The amount of product formed is_____?

A. 0.18 mole
B. 0.27 mole
C. 0.24 mole
D. 0.09 mole

Which one of the following has the maximum number of isotopes ?

A. oxygen
B. carbon
C. tin
D. chlorine

The volume occupied by 2.8 g of N2 at STP_____?

A. 2.24 dm3
B. 22.4 dm3
C. 1.12 dm3
D. 112 dm3

The number of moles of CO2 which contains 16 g of oxygen is_____?

A. 0.25
B. 0.5
C. 0.75
D. 1

How many isotopes have odd atomic number ?

A. 154
B. 280
C. 86
D. 300

Percentage of calcium in calcium carbonate is_____?

A. 80%
B. 30%
C. 40%
D. 20%

Mostly elements have fractional atomic masses because of_____?

A. mass of an atom itself is in fraction
B. atomic masses are average masses of isobars
C. atmoic masses are average masses of isotopes proportional to their relative abundance
D. atmoic masses are average masses of isotopes

Which of the following is not a macromolecule ?

A. sand
B. haemoglobin
C. diamond
D. maltose

Isotopes of the same elements has_____?

A. different number of protons
B. same number of neutrons
C. different number of neutrons
D. same mass number (nucleon number)

When cationic molecular ions are allowed to pass through strong magnetic field in mass spectrometer which of the following ions is fallen_____?

A. lighter
B. intermediate
C. heavier
D. are collected at same time

For which of the following compounds the term empirical formula cannot be applied ?

A. NaCl
B. H2O
C. CCI4
D. It can be applied to all mentioned above

The properties of an element mosly corresponds to that isotope which has greater_____?

A. Mass number
B. Atomic mass
C. Relative abundance
D. all of the above

1 a.m.u =_____?

A. 1.6 x 10-27 kg
B. 1.6 x 10-24 kg
C. 1.6 x 10-26 kg
D. 1.6 x 10-28 kg

Which of the following are isoelectronic species ?

A. H+ H H-
B. Li+ Na+ K+
C. C1- Br- I
D. F- Ne Na+

Molecular ions are formed by passing_____?

A. High energy electron beam
B. ? – particle
C. X-rays
D. All of the above

Which one is true about isotope ?

A. Same number of neutrons
B. Same mass number
C. Same physical properties
D. Same chemical properties

Which of the following ion formation is always exothermic ?

A. Uni-negative
B. Uni-positive
C. Di-negative
D. Di-positive

The sample of isotopes of an element which needs not to be vaporized in the vaporization chamer_____?

A. Gas
B. Liquid
C. Volatile solid
D. All

Avogadros number may represent_____?

A. volume of particles
B. number of particles
C. mass of particles
D. All of the above

Size of molecule depends upon_____?

A. Atomicity
B. Shape of molecule
C. Both A and B
D. Difficult to predict

Which of the following terms is used for the mass of chlorine 35.5 ?

A. relative atomic mass
B. mass number
C. atomic weight
D. relative isotopic mass

Which one of the following is not the mono isotopic element ?

A. arsenic
B. uranium
C. iodine
D. nickel

The mass of decimole of electrons (NA) is_____?

A. 1.008 mg
B. 0.184 mg
C. 0.054 mg
D. 5.4 mg

Which of the following statements is wrong about isotopes ?

A. they possess different mass number
B. they possess different physical properties
C. they possess same chemical properties
D. they possess different position in the periodic table

Qualitative analysis is carried out for _____?

A. identification of elements
B. estimation of amounts of elements
C. molar ration of elements
D. molar volume of elements

Combustion analysis is performed to determine_____?

A. Empirical formula
B. Molecular mass
C. Molecular formula
D. Formula mass

Isotopes differ in_____?

A. properties which depend upon mass
B. arrangement of electrons in orbitals
C. chemical properties
D. all of the above

Which of the following methods is used to estimate hydrogen in an organic compound?

A. Combustion method
B. Dumas method
C. Kjeldahls method
D. All of the above methods are for different purposes

The nucleus of an atom of every element will always contain_____?

A. neutrons
B. protons and electrons
C. protons
D. protons and neutrons

When 0.5 mole of phosphoric acid is dissolved in aqueous solution how many moles of -ve and +ve ions are collected altogether ?

A. 0.5
B. 1
C. 1.5
D. 2

Dempsters mass spectrometer has number of zones / parts_____?

A. 5
B. 4
C. 3
D. 2

All the following variables are used to describle gases except_____?

A. pressure
B. volume
C. moles
D. density

Methyl alcohol is not used as_____?

A. a solvent
B. an anti freezing agent
C. a substitute for petrol
D. for denaturing of ethyl alcohol

Oxygen (molecular weight = 32) diffuses at a rate of 10cm3/min under the same conditions of temperature and pressure how fast will hydrogen (molecular weight = 2) diffuse ?

A. 20cm3/min
B. 40cm3/min
C. 160cm3/min
D. 2.5cm3/min

As a substance moves from a solid to a liquid all of the following changes occur except ?

A. molecules become more disordered.
B. K.E of the molecules decreases
C. intermolecular forces become weaker.
D. molecules move more frequently.

The rectified spirit is_____?

A. 12% alcohol
B. 90% alcohol
C. 95% alcohol
D. 100% alcohol

Which of the following solids show anisotropy_____?

A. Plastic
B. Glass
C. Rubber
D. None of the above

Butyl chloride gives possible isomers ?

A. 2
B. 3
C. 4
D. 5

Metallic crystals are soluble in_____?

A. Polar solvent
B. Non polar solvent
C. Fused metal
D. None

Paramagnetic behaviour of substance is measured by a balance called_____?

A. Analytical balance
B. Guoys balance
C. Electrical balance
D. Single beam balance

Which of the following properties prove that cathode rays are material in nature_____?

A. they cast shadow
B. they possess momentum
C. they are negatively charged
D. all of the above

When an electron is moving with velocity of 2.188 x 106 ms-1 in the first orbit of Bohrs model of hydrogen. The de Broglie wavelength of electron is_____?

A. 0.33 nm
B. 0.34 nm
C. 0.35 nm
D. 0.36 nm

When methl iodide and ethyl iodide are treated with sodium metal possible major products are obtained ?

A. 1
B. 2
C. 3
D. 4

Which statement is consistent with Hunds rule ?

A. Electrons fill orbitals with parallel spins until all the orbitals of the same energy are half filled then they go into sub-shells with anti-parallel (opposite) spin.
B. The electrons in the same atom cannot have the same four quantum numbers
C. There is maximum of two electrons is an orbital.
D. None

Atomic number of Mn is 25 what is the electronic configuration in the ground state_____?

A. 1s2 2s2 2p6 3s2 3p6 3d7
B. 1s2 2s2 2p6 3s2 3p6 4s2 4p5
C. 1s2 2s2 2p6 3s2 3p5 3d10
D. 1s2 2s2 2p6 3s2 3p6 4s23d5

Which of the following is mineral fiber ?

A. Teflon
B. asbestos
C. saran
D. acrylic

The hardest of the following solids is_____?

A. sodium
B. diamond
C. graphite
D. magnesium

Which of the solid does not contain covalent bond_____?

A. copper
B. ice
C. diamond
D. graphite

The balanced chemical equation for the reaction which occurs when Be is added to water is_____?

A. Be+2H2O?Be (OH)2+H2
B. Be+H2O?Be (OH)2+H2
C. Be+H2O?[Be (OH)4]+2+H2
D. no reaction

Which of the following theories is superior to others_____?

A. VSEPR
B. VBT
C. MOT
D. none of the above

Which of the following is not characteristics of reversible reaction_____?

A. whole amount of reactant does not change into product
B. chemical equilibrium is established
C. a catalyst changes the direction of reaction
D. rate of forward reaction decreases as reaction proceeds

A solution has pH = 0 its H+ ion concentration is_____?

A. 1 x 10-1
B. 1 x 10-14
C. 1 x 10-7
D. 1

1 mole of electron has mass in microgram_____?

A. 1.008 x 10-3
B. 5.5 x 10-4
C. 1.84 x 10-4
D. 1.673 x 10-3

The use of antifreeze in the automobile radiator is an important application of_____?

A. constitutive property
B. additive property
C. colligative property
D. intrinsic property

At which electrode the reduction of the solution is occurring in Al-Ag cell_____?

A. A
B. Ag
C. Both
D. Neither

In which of the following type of reactions energy of reactant is greater than energy of product_____?

A. endothermic
B. exothermic
C. unpredictable
D. same

Which of following metals can be displaced by all other metals from its solution ?

A. Ag
B. A
C. Au
D. Cu

Which of the elements do not fall in stair case of the modern periodic table_____?

A. Si
B. As
C. Te
D. None of the above

Across short period the melting and boiling point increase upto _____?

A. IIIA group
B. IVA group
C. VA group
D. VIA group

Which of the following is the formula of chrome red ?

A. Pb3 O4
B. 2Pb CO3 – Pb (OH)2
C. Pb Cr O4 – Pb (OH)2
D. Pb2O

Regular coiling or zigzagging of polypeptide through hydrogen bonding is its_____?

A. Quantum structure
B. Secondary structure
C. Tertiary structure
D. Primary structure

In the van der Waals equation (P + n2a / v2) (v – nb) = nRT which of the following statement is not true ?

A. n2a/v correct for the intermolecular forces.
B. nb correct for the volume occupied by gas molecules.
C. at high densities the equation reduces to the ideal gas law
D. all of the above statements are correct.

The inhaled breath of diabetics patient contain acetone. A medical student wishes to test for diabetes by asking patient to bubble their breath through a reagent ?

A. alkaline aquenous iodine
B. aqueous bromine
C. Fehling solution
D. aqueous NaOH

When aquious bromine is added to aqueous phenol a creamy white ppt is obtained. What does this reaction show ?

A. phenol is unsaturated
B. 2-bromophenol is insoluble in water
C. a hydroxy group makes the benzene ring more susceptible to electrophilic attack
D. acid-base reaction

If a graph is plotted between temperature on x-axis and volume on y-axis for 1 mole of gas then we get straight line which cuts the temperature exis at_____?

A. 0?C
B. 273.16K
C. ?273.16 K
D. ?273.16?C

Benzene is a good solvent for_____?

A. fats
B. resins
C. iodine
D. all the above

Which of the following element doesnot show allotropy_____?

A. Carbon
B. Arsenic
C. Nitrogen
D. Sulphur

Purines and pyrimidines are_____?

A. Enzymes
B. Nitrogenous bases
C. Carbohydrates
D. Lipids

All the transition elements show_____?

A. Similar physical properties
B. Similar chemical properties
C. Both A and b
D. None

In solids the temperature is the measure of_____?

A. Average kinetic energy of molecules
B. Vibrational kinetic energy
C. Translational kinetic energy
D. None of the above

Fruit juices and fizzy drinks such as lemonade are often sold in aluminium cans. What is the most important reason aluminium is a suitable metal ?

A. aluminium can be recycled
B. aluminium has very low density
C. aluminium is the most abundant metal in the earth crust
D. aluminium is resistant to corrosion by organic acids.

On heating aldehydes with Fehlings solution we get a precipitate whose colour is_____?

A. pink
B. black
C. yellow
D. brick red

What is maximum number of electrons in an orbital with m (magnetic quantum number) = 3 ?

A. 6
B. 4

C. 3
D. 2

Which catalyst is used in contact process ?

A. Fe2O3
B. V2O5
C. SO3
D. Ag2O

Which of the following elements has greater 1st ionization energy_____?

A. B
B. C
C. N
D. O

Which of the following molecule is polar_____?

A. CCI4
B. CO2
C. BF3
D. none of the above

Which of the following points are important in connection with equilibrium constant ?

A. Kc is constant at given temperature
B. Kc is unaffected by change in concentration of reactants or products
C. Kc indicates the extent of reaction but not about the rate of reaction.
D. All of the above

Solubility of CaF2 is 2.0×10-4 gdm-3 then Ksp of CaF2 is_____?

A. 4.0 x 10-8
B. 3.2 x 10-11
C. 2.0 x 10-8
D. 4.0 x 10-12

The unit of molality is_____?

A. moles dm-3
B. moles kg-1
C. gram dm-3
D. none

A solution can be both_____?

A. dilute and concentrated
B. dilute and saturated
C. saturated and unsaturated
D. saturated and super saturated

Consider the following redox reaction. Zn+dil HNO3? Zn (NO3)2 + N2O + H2O The coefficient number of HNO3 in the equation is_____?

A. 6
B. 8
C. 10
D. 4

Which of the following elements react with steam to produce H2 gas?

A. Pd
B. Ni
C. Sn
D. All of the above

The unit of the rate constant (k) is same as that of rate of reaction_____?

A. First order reaction
B. Second order reaction
C. Zero order reaction
D. Third order reaction

Acid present in acid rain may be_____?

A. H2SO4
B. HNO3
C. both A and B
D. none of the above

Which of the following elements conduct electricity and also melts below 100°C ?

A. Aluminium
B. Sodium
C. Carbon
D. Sulphur

The compound which is added to leaded gasoline to save engine from lead oxide and lead sulphate deposits is_____?

A. Ethylene iodide
B. Ethylene bromide
C. Ethylene chloride
D. Ethylene fluoride

Isotopes differs in_____?

A. arrangement of electrons in orbitals
B. position in the periodic table
C. properties depend upon mass
D. chemical properties

The volume occupied by 1.4g CO at S.T.P is_____?

A. 22.4 dm3
B. 2.24 dm3
C. 1.12 cm3
D. 1.12 dm3

Which of the following set has all species isoelectronic_____?

A. F – Cl – Br
B. Li+1 – Na+1 – K+1
C. F – Ne – Na+
D. H+ – H- – H

Water absorber used in combustion analysis is_____?

A. 50% KOH
B. Lime water
C. CaCl2
D. Mg (CIO4)2

The type of filtering media used for filtration depending upon_____?

A. Nature of reactants
B. Nature of crucible
C. Nature of product
D. Nature of precipitate

A method of separation of components from its solution using Distribution law is _____?

A. Sublimation
B. Crystallisation
C. Solvent extraction
D. Distillation

Equal masses of methane and oxygen are mixed in empty container at 250?(C) The fraction of total pressure exerted by oxygen is_____?

A. one / seventeen
B. sixteen / seventeen
C. one / three
D. two / three

The molecules of CO2 in dry ice form_____?

A. Ionic crystal
B. Covalent crystal
C. Molecular crystal
D. Any type of crystal

Only London dispersion forces are present among the_____?

A. Molecules of water in liquid state
B. Atoms of helium in gaseous state at high temperature
C. Molecules of hydrogen chloride gas
D. Molecules of solid iodine

Quantum number values for 3p orbitals are_____?

A. n=3 l=2
B. n=3 l=0
C. n=3 l=1
D. n=3 l=3

Which specie has unpaired electrons in antibonding molecular orbitals_____?

A. O2+2
B. N2-2
C. B2
D. O2-2

For a given process the heat changes at constant pressure (qp) and at constant volume (qv) are related to each other as_____?

A. qp = qv
B. qp < qv
C. qp > qv
D. qp = qv / 2

Solubility product of AgCl is 2.0 x 10-10 mol2 dm-6. Maximum Concentration of Ag+1 ions in the solution is_____?

A. 2.0 x 10-10 mol dm-3
B. 1.414 x 10-5 mol dm-3
C. 1.0 x 10-10 mol dm-3
D. 1.0 x 10-5 mol dm-3

Which of the following solution has the highest boiling point ?

A. 5.85% NaCl Solution
B. 18.0 % glucose solution
C. 6.0 % urea solution
D. All have same boiling point

Which of the following can be used in laptops ?

A. Silver oxide battery
B. Fuel cell
C. Nickel cadmium cell
D. Lead accumulator

Which is the unit of (K) rate constant for zero order reaction ?

A. s-1
B. mol dm-3 s-1
C. mol-1 dm3 s-1
D. mol-2 dm6 s-1

Which is carnalite_____?

A. KCI
B. NaCI
C. KCI MgCl2 6H2O
D. Na2CO3. 10H2O

Which one does not give borax bead test_____?

A. Copper sulphate
B. Barium sulphate
C. Cobalt sulphate
D. Nickel sulphate

The most reactive allotropic form of phosphorus is_____?

A. White
B. Redox potential
C. Black
D. Violet

Which molecule has the highest bond energy among the halogens_____?

A. Fluorine
B. Chlorine
C. Iodine
D. Bromine

The most paramagnetic element is_____?

A. Iron
B. Cobalt
C. Chromium
D. Manganese

Which one of the following looks odd_____?

A. H2SO4
B. KMnO4
C. H2S
D. K2CrO4

In 1 – pentene -4- yne the carbon exhibit hybridization_____?

A. sp3 – sp2
B. sp2 – sp
C. sp2 – sp
D. sp3 – sp2 – sp

When benzene is heated in air with V2O5 at 450°C yields_____?

A. Phenol
B. Maleic anhydride
C. Glyoxal
D. Benzoic acid

Which one of the following will be sulphonated readily ?

A. Chlorobenzene
B. Toluene
C. Nitrobenzene
D. Benzene

When CO2 is made to react with ethy1 magnesium iodide in dry ether followed by acid hydrolysis yields_____?

A. Carboxylic acid
B. Ethanoic acid
C. Propanoic acid
D. Butanoic acid

Ethy1 chloride on reduction in the presence of Zn/HCI produces_____?

A. n. butane
B. Ethanol
C. Ethane
D. Diethy1 ether

For industrial preparation of CH3CHO catalytic promoter is_____?

A. PdCl2
B. Cu2Cl2
C. CuCl2
D. PbCl2

Which of the following is not a fatty acid ?

A. Propanoic acid
B. Acetic acid
C. Phthalic acid
D. Butanoic acid

Which one of the following fertilizers provides the nitrogen and phosphorus to the plant ?

A. Urea
B. Calcium superphosphate
C. Diammonium phosphate
D. Potassium nitrate

Chlorination of water may be harmful if the water contains_____?

A. Ammonia
B. Dissolved oxygen
C. Carbon dioxide
D. All

The mass of one mole of electron is_____?

A. 1.008
B. 0.55
C. 0.184
D. 1.637

The number of atoms in a molecule determines_____?

A. macromolecule
B. macromolecule
C. molecularity
D. atomicity

Which element has same isotopes like palladium_____?

A. Nickel
B. Calcium
C. Cadmium
D. Tin

A limiting reactant is one which_____?

A. is taken in lesser quantity in grams as compared to other reactants
B. is taken in lesser quantity in volume as compared to other reactants
C. gives the maximum amount of the product which is required
D. gives the minimum amount of the product under consideration

A safe and more reliable method for drying the crystal is_____?

A. Hot air currents
B. folds of filter paper
C. oven
D. Vacuum desiccator

A real gas obeying vander waals equation will resemble the ideal gas if_____?

A. Both a and b are small
B. Both a and b are large
C. a is small and b is large
D. a is large and b is small

Plasma is used in_____?

A. Fluorescent bulb
B. Neon signs
C. Lasers
D. All of these

Which of the following is pseudo solid_____?

A. CaF2
B. NaCl
C. Glass
D. Diamond

Bohrs model is contradicted by_____?

A. Plancks theory
B. Dual nature of matter
C. Heisenbergs uncertainty principle
D. All of these

Atomic radius can be determined by_____?

A. X – ray diffraction
B. Spectrophotometer
C. Optical microscope
D. Electron microscope

For which system does the equilibrium constant Kc has unit of (concentration)-1_____?

A. N2+3H2 2NH3
B. H2+I2 2HI
C. 2NO2 N2H4
D. PCI5 PCI3+CI2

18g glucose is dissolved in 90g water the relative lowering in vapour pressure is equal to _____?

A. 8
B. 5.1
C. 6
D. one/fifty one

Stronger is the oxidizing agent greater is the_____?

A. Oxidation potential
B. Redox potential
C. e.m.f of cell
D. standard reduction potential

Which is true about Zn-Cu galvanic cell ?

A. Reduction occurs at anode
B. K+ ion transfer from salt bridge to left beaker of ZnSO4
C. Oxidation occurs at cathode
D. Anode is negatively charged

Nitrates of which pair gives different products on thermal decomposition_____?

A. Na K
B. Mg Ca
C. Li Na
D. Li Ca

Keeping in view the size of atom which is in correct order_____?

A. Mg > Sr
B. Ba > Mg
C. Lu > Ce
D. CI > 1

Which one is not the use of silicones_____?

A. Lubricant
B. Water repellent film
C. Rubber sheet
D. Medicine

Chemical composition of cinnabar is_____?

A. FeS2
B. HgS
C. PbS
D. ZnS

When chlorine is passed through hot solution of caustic soda the reaction is said as_____?

A. Displacement
B. Reduction
C. Disproportionation reaction
D. Double displacement reaction

In the complex [Cr(OH)3(H2O)3] the coordination number is _____?

A. 2
B. 3
C. 4
D. 6

A great variety of the organic compounds is due to its property of carbon_____?

A. Show tetravalency
B. Exhibit catenation
C. Show isomerism
D. Can form multiple bonds

Vinyl acetylene combines with hydrochloric acid produces_____?

A. Diviny1 acetylene
B. Ethylidine dichloride
C. Chloroprene
D. 1 – 3 – 3 – trichloro butane

When toluene reacts with chlorine in sunlight the first major product is_____?

A. Benzy1 chloride
B. Benzal dichloride

C. O-chlorotoluene
D. O-chlorotoluene and P-chlorotoluene

Which one of the following is not a good leaving group ?

A. HSO4-
B. Cl-
C. OH-
D. Br-

The process of fermentation involves all the enzymes except_____?

A. Diastase
B. Invertase
C. Zymase
D. Sucrase

Which one does not exhibit aldol condensation_____?

A. Ethanal
B. Acetone
C. Benzaldehyde
D. Butanone

The common name of propane -1 3-dioic acid is_____?

A. Oxalic acid
B. Succinic acid
C. Malonic acid
D. Fumaric acid

Industrial materials thermal power stations are coated with_____?

A. Polyester resins
B. Epoxy paints
C. polyamide resins
D. Polyvinyl chloride

Main source of organic compounds is_____?

A. Animal
B. Fossil
C. Coal
D. Plants

Hydro carbons which burn with smoky flame are called_____?

A. Aliphatic
B. Alicyclic
C. Aromatic
D. Aldehyde

Octane number 2 2 4-trimethyl pentane is_____?

A. 100
B. 90
C. 80
D. 70

Geometric isomerism is usually found in_____?

A. Alkanes
B. Alkenes
C. Alkynes
D. Esters

Organic compounds that are essentially nonpolar and exhibit weak intermolecular forces have_____?

A. Low melting points
B. Low vapour pressure
C. High boiling points
D. High electrical conductivity

According to vital force theory_____?

A. Oorganic compounds can be synthesized from inorganic compounds
B. organic compounds cannot be synthesized from inorganic compounds
C. organic compounds can be synthesized by animals
D. organic compounds can be synthesized by plants

A double bond consists of _____?

A. Two sigma bonds
B. Two Pi bonds
C. One sigma and one Pi bonds
D. One sigma and two Pi bonds

Chemical properties of first member of homologous series with respect to other members are_____?

A. same
B. different
C. depends upon number of C atoms
D. depends upon number of H atoms

Compounds having same molecular formula but differ in structural formula are called _____?

A. polymer
B. monomer
C. isomer
D. allotropes

Organic compounds are soluble in _____?

A. polar solvent
B. non-polar solvent
C. alkalies
D. water

Methane is used in power generation in chemical industries being a_____?

A. natural gas
B. good caloric value
C. cheaper
D. All

The precess in which larger molecule with higher molecular weight breaks down into smaller moleucles with lower molecular weight_____?

A. polymerization
B. pyrolysis
C. isomerism
D. no such process occurs

The metallic sound produced by engine due to the pre-ignition of fuel is called _____?

A. knocking
B. reforming
C. cracking
D. a and c

Which of the following can be used as anti-knocking agent ?

A. PbCl2
B. (C2H5)4 Pb
C. (C2H5)2 Pb
D. all of the above

Isomerism which is present only in alkene is_____?

A. structural isomerism
B. metamerism
C. cis-trans isomerism
D. both b and c

Compound containing benzene ring in their structure are _____?

A. aliphatic
B. aromatic
C. carboxylic acid
D. carbohydrates

Which of the following is an amide_____?

A. R-NH2
B. RCONH2
C. R – NH – R
D. C6H5NH2

Only sigma bonds are present in_____?

A. propene
B. butanoic acid
C. butanal
D. ethoxy ethane

The structure of ethyne is_____?

A. angular
B. trigonal
C. linear
D. trigonal planar

The general formula of cycloalkene is _____?

A. CnH2n
B. CnH2n+2
C. CnH2n-1
D. CnH2n-2

C5H12 has the number of isomers _____?

A. one
B. two

C. three
D. four

Octane number can be improved by_____?

A. Isomerization
B. Adding (C2H5)4 Pb
C. Adding (CH3)4 Pb
D. All

Octane number 2 2 4-trimethyl pentane is_____?

A. 100
B. 90
C. 80
D. 70

Propene can exhibit_____?

A. cis-trans isomerism
B. geometric isomerism
C. both a & b
D. none of the above

Pentane and 2-methyl butance have the same_____?

A. Boiling point
B. Melting point
C. Percentage composition
D. Structural formula

The first organic compound was synthesized in laboratory by_____?

A. Wohler
B. Kolbe
C. Berzilius
D. Berthelot

First organic compound synthesized in laboratory was _____?

A. tartaric acid
B. ethyl alcohol
C. methanol
D. urea

The property of carbon chain formation is called _____?

A. catenation
B. hybridization
C. polymerization
D. solvation

The organic compounds having very high molecular weight are called _____?

A. carboxylic acids
B. ketones
C. aldehydes
D. polymers

Rate of reactions of most organic compounds are_____?

A. very slow
B. very fast
C. slow
D. no regular character present

Coal is produced after a long time decay of_____?

A. animals
B. fossils
C. wood
D. all of the above

Crude oil is blackish coloured liquid produced after the decay of organic matter present between_____?

A. earth layer
B. mountains
C. sedimentary rocks
D. rocks

At low temperature and pressure cracking can be done in presence of catalyst_____?

A. Al2O3
B. Fe2O3
C. Al2O3 and SiO2
D. Fe2O3 and SiO2

Which one of the following compounds shows intense knocking ?

A. n-pentane
B. iso-heptane
C. iso-octane
D. n-heptane

Ether functional group can be represented as _____?

A. OH
B. R-CO-R
C. R-O-R
D. R-COOH

A single atom or group of atoms which gives characteristic properties to a compound is called_____?

A. radical
B. hydrocarbon
C. functional group
D. ion

2-propanol and 1-propanol show the isomerism_____?

A. metamerism
B. functional group isomerism
C. geometric isomerism
D. position isomerism

In sp3 hybridization the expected geometry of molecules will be_____?

A. square planar
B. trigonal pyramidal
C. tetrahedral
D. linear

In cyano group the carbon atom shows which kind of hybridization_____?

A. sp2
B. sp
C. sp3
D. none of the above

the fractional distillation of petroleum produces gasoline up to _____?

A. 10%
B. 15%
C. 20%
D. 30%

Which is not heterocyclic compound _____?

A. Furan
B. Thiophene
C. Aniline
D. Pyridine

Which one is not state function _____?

A. Internal energy
B. Enthalpy
C. Gibbs free energy
D. Work

If internal energy of the system is increased _____?

A. Change in state of the system is increased
B. Temperature of the ystem may rise
C. Chemical reaction may take place
D. All

A reaction has values of ?H and ?S which are both positive. The reaction _____?

A. Is spontaneous
B. Spontaneity is temperature dependent
C. Has an increasing free energy
D. Is non-spontaneous

The environment in which a system is studied is _____?

A. State function
B. phase
C. surrounding
D. state

Anything which depends upon initial and final state of a system is_____?

A. environment
B. surrounding
C. state function
D. enthalpy

Reaction in which heat evolves is called _____?

A. endothermic
B. spontaneous
C. non-spontaneous
D. exothermic

Pumping of water uphill is_____?

A. spontaneous process
B. non-spontaneous process
C. irreversible process
D. reversible process

Which one of the following is a state function _____?

A. pressure
B. temperature
C. enthalpy
D. all of the above

Enthalpy of a reaction can be measured by _____?

A. glass calorimeter
B. manometer
C. Barometer
D. thermometer

Most of thermodynamic parameters are_____?

A. system
B. surrounding
C. phase
D. state functions

Two fundamental ways to transfer energy are_____?

A. pressure and temperature
B. pressure and volume
C. heat and work
D. heat and volume

Enthalpy change can be_____?

A. calculated by Hess law
B. can be measured by calorimeter
C. both A and B
D. none

Enthalpy of combustion for food fuel and other compounds can be measured accurately by_____?

A. glass calorimeter
B. bomb calorimeter
C. thermometer
D. manometer

When enthalpy of reactants is higher than product then reaction will be_____?

A. endothermic
B. spontaneous
C. non-spontaneous
D. exothermic

State function the macroscopic property of system depends upon_____?

A. path of reaction
B. initial state
C. final state
D. initial and final state

CuSO4 + Zn?ZnSO4+Cu is_____?

A. Spontaneous reaction
B. Non-spontaneous reaction
C. Endothermic
D. Exothermic

Total energy of a system is_____?

A. P.E + K.E
B. P.E + heat energy
C. K.E + heat energy
D. P.E + mechanical energy

Unit of heat in SI system is_____?

A. J
B. KCaL
C. Cal
D. GJ

_____ is study about energy of a chemical system ?

A. thermochemistry
B. thermodynamics
C. chemical kinetics
D. stoichiometry

Which of the following has strongest intermolecular forces of attraction ?

A. Hydrogen (H2)
B. Chlorine (Cl2)
C. lodine (I2)
D. Methane (CH4)

When substance moves from a solid to a liquid state all of the following changes occur except_____?

A. Molecules become more disordered
B. K.E of the molecules decreases
C. Intermolecular forces become weaker
D. Molecule become further separated

In order to mention the boiling point of water at 110°C the external pressure should be ?

A. Between 760 torr and 1200 torr
B. Between 200 torr and 760 torr
C. 765 torr
D. any value of pressure

Vapour pressure of water at 100°C is_____?

A. 55 mm Hg
B. 760 mm Hg
C. 355 mm Hg
D. 1489 mm Hg

Liquid crystal is discovered by _____?

A. William Crooks
B. Fredrack Reinitzer
C. J.J Thomson
D. Bravis

Hydrogen bonding is involved in_____?

A. Solubility
B. Cleansing action of detergents
C. Biological molecules
D. All

Forces of attraction which may be present between all kinds of atoms and molecules are _____?

A. intramolecular
B. intermolecular
C. van der Waal
D. Dipole-induced dipole

The quantity of heat required to convert one mole of liquid into its vapours at its boiling point is called molar heat of_____?

A. vaporization
B. evaporation
C. crystallization
D. sublimation

Water has maximum density at _____?

A. 0°C
B. 2°C
C. 4°C
D. 100°C

Formation of vapours from the surface of a liquid is called_____?

A. vapourization
B. evaporation
C. condensation
D. cracking

The ttractive forces between the partial positive end of one molecule and partial negative end of other molecule are called_____?

A. Dipole-dipole forces
B. Ion dipole-dipole forces
C. London dispersion forces
D. Debye forces

Vapour pressure is not affected by_____?

A. Surface area
B. temperature
C. intermolecular forces
D. atmospheric pressure

Table salt crystallizes with a_____?

A. Face centered cubic lattice
B. body centered cubic lattice
C. simple cubic lattice
D. othorhombic lattice

During which process empty spaces between particles become minimum ?

A. ionization
B. condensation
C. fusion
D. evaporation

Which one of the following has highest volatility_____?

A. Diethyl ether
B. Ethyl alcohol
C. Water
D. Ethylene glycol

If we provide very high amount of heat to a liquid its boiling point will_____?

A. increase
B. remains constant
C. decrease
D. there will be no boiling

A solid may be made up of_____?

A. Atoms
B. Ions
C. Molecules
D. A, B, and C

Amorphous substances posses_____?

A. No definite geometry
B. No definite heat of fusion
C. No sharp melting points
D. All of the above

Boiling points of hydrocarbons increase with the increase in number of carbon atoms. It is mainly due to_____?

A. More strength of H-bonding
B. More strength of London forces
C. Less polarizability
D. All of the above

The phenomenon in which a compound exists in two or more crystalline forms is called _____?

A. Isomorphism
B. Polymorphism
C. Anisotropy
D. Allotropy

Bucky balls is an allotropic from of_____?

A. Sulphur
B. Carbon
C. Silica
D. Tin

Isomorphic substances have _____?

A. Same physical and chemical properties
B. Same physical and different chemical properties
C. Different physical and same chemical properties
D. Different physical and chemical properties

The pressure during the molar heat of fusion is kept_____?

A. 0 atmosphere
B. one atmosphere
C. 2 atmosphere
D. 10 atmosphere

All the enthalpy changes are_____?

A. Negative
B. Positive
C. May or may not be A or B
D. none

Which has strongest bonding in the solid state ?

A. Hydrogen Chloride (HCI)
B. Chlorine (Cl2)
C. Xenon(Xe)
D. Sodium Chloride (NaCI)

When the atoms of third layer are arranged in such a way that they directly lie above the atoms of first layer then this arrangement is called_____?

A. ABAB (hexagonal)
B. ABCABC (Cubic)
C. Orthor hombic
D. Rhombohedral

Which one is false for evaporation ?

A. Surface phenomenon
B. Continuous
C. Exothermic
D. Cause cooling

Which one of the following does not show hydrogen bonding?

A. Water
B. Ethyl alcohol
C. Phenol
D. Diethyl ether

Which one is a conductor but is not malleable ?

A. Iron
B. Graphite
C. Silver
D. Platinum

The density of water may be_____?

A. Equal to that of ice
B. Greater than that of ice
C. Less than that of ice
D. All are possible

Steam causes more sever burn than the boiling water because it possesses _____?

A. Latent heat of fusion
B. Latent heat of vaporization
C. Latent heat of sublimation
D. All of the above

The conversion of vapours back into their liquid state is called_____?

A. crystallization
B. evaporization
C. vaporization
D. condensation

When water freezes at 0°C its density decreases due to_____?

A. Change of bond angles
B. Cubic structure of ice
C. Empty space present in the structure of ice
D. Change of bond length

The boiling point increases down the zero group element due to_____?

A. Ion dipole forces
B. London forces
C. Hydrogen bonding
D. Dipole dipole forces

Rising of a wetting liquid in a capillary tube is due to_____?

A. Surface tension
B. Cohesive forces
C. Adhesive forces
D. viscosity

The number of formula units in 29.25g of common salt_____?

A. 6.022 x 1023
B. 3.01 x 1023
C. 2 x NA
D. 4 x 6.022 x 1023

Liquid gets the shape of the container when it is poured into it. Which one of the following reasons justifies it ?

A. Liquid do not have definite shape
B. Liquid do not have definite volume
C. Lieuid is highly compressible
D. Liquid molecules can slide over each other

Molar heat of vaporization of water is_____?

A. 40.7 KJ/mole
B. 40.7 J/mole
C. 40.7 cal/mole
D. 40.7 Kcal/mole

Crystallites are present in_____?

A. crystalline solids
B. amorphous solids
C. liquid crystals
D. all of the above

A malleable solid is one which can be_____?

A. Converted into wires
B. Converted into thin sheets
C. Melted easily
D. All of the above

Crystalline solids can be identified easily from their _____?

A. Sharp melting point
B. Definite geometry
C. Transition temperature
D. Colour

The viscosity of solids is_____?

A. Infinite
B. Negligible
C. Medium
D. No concept of viscosity in solid

Which solids are called true solids _____?

A. Metallic
B. Amorphous
C. Crystalline
D. Vitreous

The number amino acid units for each turn of helix on average are_____?

A. 21
B. 23
C. 25
D. 27

If a physical and chemical change takes place at a constant pressure then the heat change during the process is called_____?

A. Heat of transition
B. Heat of fusion
C. Enthalpy change
D. All of above

The amount of heat absorbed when one mole of a liquid is changed into gas at its boiling point is_____?

A. Molar heat of sublimation
B. Molar heat of fusion
C. Molar heat of vapourization
D. Latent heat of that liquid

All of the following were theorized by Bohr in his description of the atom except_____?

A. Angular momentum of electrons in multiples of h/2?
B. Electrons revolve in discrete circular orbits
C. Energy of each electron is directly proportional to n2
D. Electrons radiate energy continuously in a given orbit.

The magnetic quantum number (QN) has its values determined directly by the value of_____?

A. Principal (QN)
B. Azimuthal (QN)
C. Spin (QN)
D. Both A & B

The maximum number of electron in a sub shell with ? = 3fs_____?

A. 6
B. 10
C. 14
D. 18

When an atom absorbs energy the lines in the spectrum will appear which are_____?

A. Brighter
B. Darker
C. Colourless
D. Hard to locate

Which one is not true about cathode rays ?

A. 9.11×10-31 Kg
B. Cast shadow
C. Heat up the platinum foil
D. Cannot ionize

Rutherfords planet like structure was defective and unsatisfactory because_____?

A. Moving e- accelerate towards the nucleus
B. Continuous spectrum
C. behavior of electron remain unexplained
D. all

Splitting of spectral lines when atom is subjected to magnetic field is called _____?

A. Zeemans effect
B. Starks effect
C. Photo electric effect
D. Compton effect

Which one of the following explain the shape of orbitals _____?

A. Principal of quantum number
B. Azimuthal quantum number
C. Magnetic quantum number
D. Spin quantum number

Pressure in gas discharge tube was kept_____?

A. 10 torr
B. 1 torr
C. 0.1 torr
D. 0.01 torr

Angle of deflection was studied by_____?

A. Hitorff
B. Stoney
C. William Crookes
D. J.Perrin

Positive rays give flash on_____?

A. AgNO3 plate
B. AgCl plate
C. ZnO
D. ZnS

The value of e/m ratio of electron is_____?

A. 6.02 x 1023 C/kg
B. 1.7588 x 1020 C/kg
C. 9.1095 x 10-31 C/kg
D. 1.7588 x 1011 C/kg

Planks theory says energy is emitted_____?

A. In continuous manner
B. Discontinuous manner
C. Simultaneously
D. In the form of heat

2nd orbit is _____ away from nucleus of H-atom as compared to 1st orbit is ?

A. 2-times
B. 3-times
C. 4-times
D. 6 times

The correct electronic configuration of Cu is _____?

A. [Ar]4s1
B. [Ar]4s2
C. [Ar]3d104s1
D. [Ar]3d94s2

Atomic orbits having same energy are called_____?

A. Degenerate orbitals
B. Bonding molecular orbitals
C. Anti bonding molecular orbitals
D. Half filled orbitals

When electrons collide with heavy metals than _____ are produced?

A. Beta-rays
B. Alpha-rays
C. X-rays
D. Gamma-rays

Atom with higher atomic number produces X-rays of_____?

A. Shorter wavelength
B. Larger wavelength
C. X-ray not produced
D. All are possible

Space around nucleus where finding probability of electrons is maximum is called _____?

A. Orbital
B. Orbit is elliptical
C. subshell
D. Electron cloud

Electronic configuration of K is_____?

A. [Ar]4s2
B. [Ar]4s1
C. [Kr]5s1
D. [He]2s1

Milikan used _____ in his atomizer?

A. Milk
B. Honey
C. Oil
D. Water

Spectrum is produced due to_____?

A. Different wavelength
B. Different colours
C. Different intensities
D. all have little contribution

When electron jump into orbit 1 then series obtained is_____?

A. Lyman
B. Paschen
C. Pfund
D. Brackett

Splitting of spectral lines when atoms are subjected to strong electric filed is called_____?

A. Zeeman effect
B. Stark effect
C. Photoelectric effect
D. Compton effect

Three quantum number have been derived from equation of_____?

A. de-Broglie
B. Plancks
C. Schrodinger
D. Heisenberg

The letters s p d and f are used to represent which quantum numbers_____?

A. Principal
B. Azimuthal
C. Magnetic
D. Spin

The atomic number of an element having maximum number of unpaired electrons in p-subshell is_____?

A. 7
B. 10
C. 12
D. 16

Colour of fluorescene produced by cathode rays depends upon_____?

A. Temperature
B. Pressure
C. Volume
D. Composition of glass

Positive rays are produced_____?

A. By burning of gas
B. By cooling of the gas
C. By the bombardment of cathode rays on gas molecules
D. From anode like cathode rays produced from cathode

The relationship between energy of a photon of light and its frequency is given by_____?

A. de-Broglie duel nature of matter
B. Bohrs model
C. Plancks Quantum theory
D. Rutherfords atomic model

The velocity of the photon_____?

A. Is independent of wavelength
B. Depends upon source
C. Depends upon its frequency
D. Equals to the square of amplitude

Atom cannot be divided into simple unitstheorized by_____?

A. Rutherford
B. Dalton
C. Bohr
D. Schrodinger

The number of fundamental particles in an atom of the lightest isotope carbon are_____?

A. 6
B. 12
C. 18
D. 20

Increase in atomic number is observed during_____?

A. Alpha emission
B. Beta emission
C. Both A & B
D. Radioactivity

Free neutron changes into proton with the emission of_____?

A. Neutrino
B. Electron
C. Both A & B
D. Meson

Charge of electron was measured by_____?

A. J.J Thomson
B. Millikan
C. Rutherford
D. Perrin

Rutherford bombarded _____ particles in discovery of nucleus?

A. Gamma-rays
B. Alpha-rays
C. Beta-rays
D. X-rays

The maximum number of orbitals present in a subshell that is represented by Azimuthal quantum number = 3 will be_____?

A. 1
B. 3
C. 5
D. 7

Pfund series are produced in the spectrum of hydrogen atom_____?

A. when electrons jump down to 2nd- orbit
B. when electrons jump down to 3rd- orbit
C. when electrons jump down to 4th- orbit
D. when electrons jump down to 5th- orbit

Sommerfelds modification in Bohrs model is_____?

A. Orbit is cylindrical
B. Orbit is elliptical
C. Orbit is longitudinal
D. Orbit is asymmetrical

Wavelength of electron was verified by_____?

A. Moseley
B. Davisson and Germer
C. Einstein
D. Roentgen

Quantum number which tells the energy of electron is_____?

A. n
B. 1
C. m
D. s

_____ can expel proteons from paraffins ?

A. Electron
B. Positron
C. Neutron
D. None of above has such capability

Centrifugal forces are balanced in atom by_____?

A. Attractive forces
B. Repulsive force
C. Electrons
D. Neutrons

When 6d orbital is complete the entering electron goes into_____?

A. 7f
B. 7s
C. 7p
D. 7d

Neutrons moving with an energy of 1.2 MeV are called_____?

A. Fast neutrons
B. Slow neutrons
C. Moderate neutrons
D. All are possible

Which of the following way in used for classification of chromatography ?

A. Shape
B. Phase
C. Mechanism
D. All

Which of the following technique is used for the separation of insoluble particles from liquids ?

A. Filtration
B. Crystallization

C. Solvent extraction
D. Chromatography

Fluted filter paper is used to_____?

A. Filter hot solution
B. Avoid premature crystallization
C. Increase the rate of filtration
D. Decrease the area

A substance having very high vapour pressure at its melting point on heating will show_____?

A. Melting
B. Sublimation
C. Decomposition
D. Condensation

A technique of partition chromatography in which the solvent is in a pool at the bottom of container_____?

A. Adsorption chromatography
B. Ascending chromatography
C. Radial chromatography
D. Descending chromatography

Branch of chemistry that deals with the complete qualitative and quantitative analysis of a substance is_____?

A. Stoichio chemistry
B. Physical chemistry
C. Analytical chemistry
D. Quantum chemistry

Estimation of amounts of different components in a sample is_____?

A. Quantitative analysis
B. Qualitative analysis
C. Stochiometery
D. Physical chemistry

The solid which is left over the filter paper as a result of filtration_____?

A. Insoluble particles
B. residue
C. crystals
D. mud

Gooch Crucibles are made up of_____?

A. plastic
B. fibre
C. porcelain
D. steel

Sintered crucible is made up of_____?

A. Plastic
B. glass
C. porcetain
D. fiber

Separation of a solid from its hot saturated solution by cooling is called_____?

A. vapourization
B. solvent extraction
C. filtration
D. crystallization

Which of the following technique is simple and efficient to purify a substance_____?

A. Filtration
B. Sublimation
C. Crystallization
D. Solvent extraction

95% ethanol is called_____?

A. methylated spirit
B. wood spirit
C. rectified spirit
D. absolute alcohol

Ratio of the amount of solute in organic and aqueous solvent is_____?

A. Retardation factor
B. Distribution co-efficient
C. Distribution in aqueous solution
D. All statements are wrong

Animal charcoal adsorbs the coloured_____?

A. impurities
B. crystals

C. solvents
D. both A & B

Crystallization does not involve_____?

A. heating
B. sublimation
C. cooling
D. vaporization

In CCI4 I2 shows_____?

A. Red colour
B. Purple colour
C. Blue colour
D. Yellow colour

Direct conversion of solids into vapours is called _____?

A. Solvent extraction
B. sublimation
C. crystallization
D. vaporization

Without suction pump filtration is _____?

A. Fast process
B. Slow process
C. Rapid process
D. All are possible

The use of CaCl2 and PCl5 in the process of crystallization is as a_____?

A. oxidizing agent
B. reducing agent
C. drying agent
D. colouring agent

In solvent extraction ether is used to separate products of organic synthesis from_____?

A. water
B. iodine
C. hydrochloric acid
D. gases

In crystallization if the solvent is inflammable then direct heating is_____?

A. needed
B. avoided
C. depends on temperature
D. crystallization does not involve heating

Rate of filtration can be increased by applying gentle suction_____?

A. Gooch crucible
B. Filter paper
C. Sintered crucible
D. All of the above

Size of filter paper is selected according to the amount of_____?

A. solution
B. amount of insoluble solute
C. amount of soluble solute
D. Amount of solvent

The tip of funnel should touch the wall of the breaker in order to avoid_____?

A. Inconsistent flow of filtration
B. splashing
C. premature crystallization
D. all of above

The technique used to separate components of mixture in solid phase ?

A. Crystallization
B. Filtration
C. Sublimation
D. Solvent extraction

Identification of the components of a sample is_____?

A. Quantitative analysis
B. Qualitative analysis
C. Stoichiometry
D. Physical chemistry

Different components of a mixture have different Rf values due to_____?

A. Polar solvent used
B. Combination of solvents used
C. Their different distribution coefficients in the solvent
D. Distributive law

A process controlled by Distributive law is_____?

A. Crystallization
B. Sublimation
C. Solvent extraction
D. Filtration

Safe and the most reliable method of drying crystals is through_____?

A. Filter paper
B. Vacuum desiccators
C. Oven
D. None of these

Silica gel and alumina are used as _____?

A. Mobile phase
B. Stationary phase
C. Mixed phase
D. Single phase

The solvent or mixture of solvents used for separation of compounds is called_____?

A. Stationary phase
B. Mobile phase
C. Dynamic phase
D. Static phase

Sintered glass is a porous material used for _____?

A. absorption
B. adsorption
C. filtration
D. sublimation

Which is not related pair of term used in analytical techniques_____?

A. Filtrate residue
B. Sublimate sublimation
C. Drying desiccator
D. Separating funnel mother liquor

The major steps involved in complete quantitative analysis are _____?

A. 2
B. 3
C. 4
D. 5

Selection of filter paper depends on size of particles to be_____?

A. filtered
B. dried
C. decolorized
D. decanted

Which is not a sublime material_____?

A. Iodine
B. Benzoic acid
C. Ammonium chloride
D. Potash alum

Shaking two immiscible liquids increases_____?

A. Length of contact
B. Volume of contact
C. Area of contact
D. all of above

The solution remaining after the formation of crystals is called _____?

A. Mother liquor
B. Dilute solution
C. Residue
D. both A & B

The ionization energy_____?

A. Generally increases from left to right in a period
B. Does not change in a period
C. Increase from top to bottom in a group
D. Does not change in a group

Which type of bond is formed by overlap of p orbitals _____?

A. Pi
B. Sigma
C. Both
D. Neither

The octet rule does not always hold for which of the following elements _____?

A. C
B. O
C. F
D. P

Which of the following is the best explanation that CO2 is non polar molecule _____?

A. Linear geometry
B. Dipole moment is zero
C. Sp hybridization
D. None

Which one is not the absolute term of the element _____ ?

A. Ionization energy
B. Electron affinity
C. Electro negativity
D. Atomic size

In O2 each oxygen atom is hybridized_____?

A. sp3
B. sp2
C. sp
D. All

Measurement of the degree of polarity is_____?

A. Electron affinity
B. Ionic character
C. Ionization energy
D. Dipole moment

A specie with maximum number of unpaired electrons ?

A. F
B. H2O
C. HF
D. NH-2

Force responsible to hold atoms together in a compound is called _____?

A. Bond
B. Attractive force
C. Interaction
D. All of above represent same entity

In a period the atomic radius ?

A. Increases
B. Decreases
C. Remain same
D. First decreases then increases

Energy required to remove electron from an atom_____?

A. Ionization potential
B. Electronegativity
C. Electron affinity
D. Activation energy

Greater shielding effect corresponds to ionization energy value_____?

A. Greater
B. Lesser
C. Remain same
D. No effect

Energy released or absorbed when electrons are added in atom is_____?

A. Ionization potential
B. Electronegativity
C. Electron affinity
D. Activation energy

Elements of group IA IIA are _____?

A. Electronegative
B. Electropositive
C. Neutral
D. IA is electropositive while IIA is electronegative

Mostly ionic compound are produced in between elements of_____?

A. IA and VIA
B. IA IIA and VIIA
C. IB and VIIB
D. IA and IB

The Lewis acids are_____?

A. Electron deficient
B. Electron rich
C. Octet is complete
D. No such acids exist

The geometry of ammonia is_____?

A. Tetrahedral
B. Square planner
C. Trigonal bipyramidal
D. Trigonal Pyramidal

By combining n atmic orbitals no. of hybrid orbitals will be_____?

A. 2n
B. n
C. 3n
D. impossible to predict

Geometry of simple molecule having sp3 hybrid orbital is _____?

A. Triangular
B. Tetrahedral
C. Square planner
D. Linear

Pi bonds are produced by overlapping of_____?

A. Un-hybrid orbitals
B. Hybrid orbitals
C. Hybrid and un hybrid orbitals
D. atomic orbital and hybrid orbital

Molecular orbital which have higher energy than atomic orbitals is called_____?

A. Bonding molecular orbital
B. Antibonding molecular orbital
C. Hybrid orbital
D. Super atomic orbital

Bond order for N2 molecule is _____?

A. 2
B. 1
C. 3
D. 4

Unit of dipole moment is_____?

A. Debye
B. Poise
C. Pascal
D. Newton

The relative attraction of the nucleus for the electrons in a chemical bond is called _____?

A. Ionization energy
B. Electron affinity
C. Electro negativity
D. None of the above

Which of the following will have highest value of electron affinity_____?

A. F
B. Cl
C. Br
D. I

Which of the solid does not contain covalent bond_____?

A. Copper
B. Ice
C. Diamond
D. Graphite

Shielding effect across the period _____?

A. Increases
B. Decreases
C. Constant
D. None

Which one has maximum number of unpaired electrons ?

A. 6X
B. 7Y
C. 9Z
D. 13W

Molecular orbitals are filled according to _____?

A. Auf bau principle
B. Hunds rule
C. Paulis Exclusion principle
D. All these

Which one shows high %age of the ionic character ?

A. H2O
B. HF

C. HCI
D. HBr

Which of the following have their outer most shell complete in atomic form ?

A. Noble gases
B. Alkali metals
C. Coinage metals
D. Gun metals

nergy of atom in compound is_____?

EA. Higher than individual
B. Lesser than individual
C. No change
D. Impossible to predict

An atom loses or gains electrons to_____?

A. Gain stability
B. Form a bond
C. Complete its outermost shell
D. all are accurate justifications

In a group ionic radius ?

A. Increases
B. Decreases
C. No change
D. Variable trend

Ionization energy in a period generally _____?

A. Increases
B. Decreases
C. No change
D. Variable trend

Elements having high I.P values are_____?

A. Metals
B. Non metals
C. Liquids
D. Solids

In a period electronegativity from left to right_____?

A. Increases
B. Decreases
C. Remain constant
D. Variable trend

Ionic bond is produced after complete transfer of _____ ?

A. Nucleus
B. Neutrons
C. Electrons
D. Protons

Bond will beionic when E.N difference of bonded atom is _____?

A. Equal to 1.7
B. Greater than 1.7
C. Less than 1.7
D. No specificity exists

Which one of the following has polar covalent bond ?

A. HF
B. CH4
C. H2
D. N2

Sharing of 1 electron pair by one specie forms_____?

A. Single covalent bond
B. Hydrogen bond
C. Double covalent bond
D. Coordinate covalent bond

Orbitals of same energy produced after mixing of orbitals of different energy are called _____?

A. Degenerate orbitals
B. Generate orbitals
C. Hybrid orbitals
D. Zeeman orbitals

Geometry of molecule will be pyramidal if the outer post shell of the central atom has_____?

A. 3 bond pair one lone pair
B. 2 bond pair 2 lone pair
C. 1 bond pair 3 lone pair
D. 3 lone pair 1 bond pair

According to VESPR Model the geometry of molecule having 5 bond pair in outer most shell will be _____?

A. Triangular
B. Square planner
C. Trigonal bipyramidal
D. Octahedral

Unpaired electron in a molecule gives _____ character ?

A. Ferromagnetic
B. Paramagnetic
C. Diamagnetism
D. Both A & B

Product of charge and distance is called_____?

A. Pressure
B. Bond length
C. Work
D. Dipole moment

on sp3 hybridization _____?

A. All p-orbitals are involved
B. One s and 3 p-orbitals are involved
C. one p-orbital is involved
D. four p-orbitals are involved

What is the relative rate of effusion of CO and CO2 ?

A. CO is 1.25 times faster than CO2
B. CO is 3.75 times faster than CO2
C. CO is 1.25 times faster than CO
D. Both diffuse at the same rate

Which of the following is not considered as an intermolecular force between molecules ?

A. Coordinate covalent bonds
B. Hydrogen bonds
C. Debye forces
D. London dispersion forces

Ideal gasses have all the following characteristics except ?

A. Absence of intermolecular forces
B. Collisions among the molecules of an ideal gas are perfectly elastic
C. The molecules occupy no space
D. All of the above are correct

Under what conditions the gases deviate from the ideal behavior ?

A. High temperature
B. Low temperature
C. High pressure
D. B and C

Which one has the lowest density at room temperature ?

A. Ne
B. N2
C. NH3
D. CO

The introduction of Kelvin scale in thermodynamic is according to_____?

A. Boyles law
B. Charles law
C. Daltons law
D. Grahams law

At constant temperature the pressure of an ideal gas is doubled its density becomes_____?

A. Half
B. Double
C. Same
D. None

The diffusion of gases at absolute zero will be_____?

A. Unchanged
B. Slightly decreased
C. Slightly increased
D. Zero

Critical temperature for different gases is different and depends upon_____?

A. Size of molecule
B. Shape of molecule
C. Intermolecular attractions
D. All of the above

What is the simplest form of matter ?

A. Gas
B. Liquid
C. Solid
D. Semi solid

Which state of matter has the lowest density ?

A. Gas
B. Liquid
C. Solid
D. Plasma

The solid particles only posses_____?

A. Translational motion
B. Vibrational motion
C. Rotational motion
D. All of above motions

If 1/V is plotted on X-axis and pressure on Y-axis at constant temperature what should appear _____?

A. Straight line parallel to x-axis
B. Straight line parallel to y-axis
C. Straight line
D. Curve

One mole of an ideal gas at 546.5 K under 2 atm pressure has a volume of_____?

A. 22.414 m3
B. 44.828 dm3
C. 22.414 dm3
D. 11.212 cm3

Which one is not the partial pressure of oxygen in the lungs ?

A. 0.1526 atm
B. 116 mm of Hg
C. 116 torr
D. 1 atm

The kinetic molecular theory of gases was put forward in 1738 by _____?

A. Boltzman
B. Maxell
C. Clausius
D. Bernoulli

Hydrogen effuses four times more rapidly than volume of an unknown gas molar mass of unknown gas should be_____?

A. 16 gmol-1
B. 32 gmol-1
C. 48 gmol-1
D. 64 gmol-1

The processes of effusion and diffusion are best understand by_____?

A. Daltons law
B. Avogadros law
C. Grahams law
D. Charles law

The non-ideal behaviour results chiefly from_____?

A. Intermolecular attraction and infinite volume
B. Elastic collisions and finite volume
C. Intermolecular attractions and finite volume
D. Intermolecular attraction only

Linds method is employed for_____?

A. Separation of gases
B. Expansion of gases
C. Compression of gases
D. Liquefaction of gases

Which of these gases diffuse more quickly than oxygen ?

A. H2S
B. NO
C. Cl2
D. N2O

The weakest (in strength) of the following intermolecular forces is_____?

A. Hydrogen bonding
B. Vander Waals force
C. Forces among the polar molecules
D. Ionic bond

Which of the following statements is true about plasma_____?

A. It may be the first state of matter
B. It is not a phase transition

C. It is a conductor of electricity
D. All of the above

0.5 mole of nitrogen gas and 0.5 mole of carbon monoxide gas at STP have same_____?

A. Value of a
B. Mass
C. Atoms
D. Both B and C

Which of the following option is incorrect about gases ?

A. All molecules move with same speed
B. All molecules behave independently
C. PV / RT = n
D. All gases cannot be liquefied through Linds Method

In how many forms do matter exists ?

A. Three
B. Four
C. Five
D. Two

What is the abundant form of matter on earth ?

A. Gas
B. Liquid
C. Solid
D. Plasma

For a gas where volume and pressures are 1dm3 and 2 atm respectively what should be its new volume when pressure is increased to 6 atm at constant temperature ?

A. 1/2dm3
B. 1/3dm3
C. 1/4dm3
D. 2/3dm3

Which one is the right value for R ?

A. 0.0821 atm dm3k-1mol-
B. 0.0821 atm m3k-1mol-1
C. 2 cal k-1 mol-1
D. 8.314 Nm2k-1mol-1

The partial pressure exerted by the water vapours is called_____?

A. Surface tension
B. Aqueous tension
C. Vapour pressure
D. Hydraulic pressure

The spreading of fragrance or scent in air is due to_____?

A. Diffusion
B. Effusion
C. Attraction with air
D. Low dsensity

The highest temperature at which a substance can exist as a liquid is called its_____?

A. Critical temperature
B. Standard temperature
C. Absolute temperature
D. Upper consulate temperature

What do we call to sudden expansion of plasma ?

A. Avogadros law
B. Grahams law of diffusion
C. Joule Thompson effect
D. Daltons law of partial pressure

What will be the pressure of 1 mole of an ideal gas maintained at 300 K and 250cm3 volume ?

A. 98.5 atm
B. 96.7 atm
C. 95.8 atm
D. 97.1 atm

Who made volume and pressure correction to explain deviation of gases from ideal behaviour ?

A. Clausius
B. Boltzman
C. Charles
D. Vander waal

The gases become non-ideal at _____?

A. High temperature and high pressure
B. Low temperature and low pressure
C. High temperature and low pressure
D. Low temperature and high pressure

The pH of 10-3 mol dm-3 of an aqueous solution of H2SO4 is_____?

A. 3
B. 2.7
C. 2
D. 1.5

If a buffer solution of higher pH than seven is to be made we use_____?

A. Strong acid and strong base
B. Weak acid and strong base
C. Weak acid and strong base
D. Weak acid and its salt with strong base

AgCl dissolved with conc (2×10-2) Ksp will be_____?

A. 3.6 x 10-6
B. 3.6 x 10-5
C. 7.2 x 10-6
D. 4 x 10-4

Which of the following will not change the concentration of ammonia at the equilibrium ?

A. Increase of pressure
B. Increase of volume
C. Addition of catalyst
D. Decrease of temperature

For a reaction involving only gases at 25?C the equilibrium constant can be expressed in terms of molarity Ke or partial pressure Kp. Which is true about the numerical value of Kp ?

A. Kc is generally greaer than Kp
B. Kc is generally less than Kp
C. Kc is generally equal to Kp
D. Kc is equal to Kp if the total moles of reactants and products are equal

Which one of the following aqueous solutions will be basic ?

A. NaCI
B. Na2SO4
C. Na2CO3
D. FeCl3

Reaction which proceeds in both directions is called_____?

A. reversible
B. irreversible
C. spontaneous
D. non-spontaneous

Conversion of reactant into product in unit time is called_____?

A. rate of forward reaction
B. rate of backward reaction
C. rate constant
D. rate co-efficient

Unit of Kc is_____?

A. moles2dm+6
B. moles-2dm+6
C. moles+2dm-6
D. Kc may or may not have units

Rate expression for ammonia synthesis is_____?

A. Kc=x2/(a-x)(b-x)
B. Kc=x2/v(a-x)
C. Kc=4×2/(a-2x)2(b-x)
D. Kc=4x2v2/(a-x)(b-3x)3

Catalyst used to speed up the reaction of ammonia synthesis is_____?

A. V2O5
B. V2O5 and Pt
C. Fe
D. Pieces of Fe crystals are embedded in fused mixture of MgO Al2O3 and SiO2

By the addition of base in waterpH will be_____?

A. more than 7
B. less than 7
C. equal to 7
D. no effect

Negative log of mular concentration of H+ ions is called_____?

A. pH
B. pOH
C. pKa
D. pKw

Any substance which accepts H+ is base favours the concept_____?

A. Lowrys
B. Lewis
C. Arrhenius
D. None of these

When sparingly soluble salt is in equilibrium with molar concentration of its oppositely charged ion when the product is called_____?

A. common ion effect
B. solubility product
C. dissociation constant
D. dissociation constant for an acid

Addition of CH3COOH and CH3COONa gives in water_____?

A. Standard solution
B. buffer solution
C. acidic buffer solution
D. both B & C

Solubility of any salt can be determined from_____?

A. Ka
B. Kb
C. Kc
D. Ksp

By decreasing the pressure the reaction will go to that direction where_____?

A. volume is decreased
B. volume increased
C. heat absorbed
D. no. of moles of specie decreased

Equilibrium state is achieved quickly by the addition of _____?

A. reactants
B. acid
C. base
D. catalyst

Which one of the following is a buffer solution ?

A. brine
B. blood
C. glue
D. solution of CuSO4

Solution having the property of a very little change in pH on adding a small amount of strong acid or base is called_____?

A. buffer solution
B. normal solution
C. standard solution
D. neutral solution

Conjugated base of a weak acid is_____?

A. weak
B. strong
C. moderately weak
D. unstable

Kc value has_____?

A. No units
B. Units
C. Both A & B
D. None

Sodium benzoate and benzoic acid are mixed in equimolar ration to form buffer if pKa is 2 what will be the pH ?

A. 0
B. 1
C. 2
D. any one

In which of the following equilibria will Kc and Kp have the same value ?

A. PCI5 = PCI3 + Cl2
B. N2 + 3H2 = 2NH
C. 2CO + O2 = CO2
D. N2 + O2 = 2NO

Which of following is not a base_____?

A. KOH
B. NH3
C. PH3
D. BF3

Which set of solutes will form a buffer when dissolved in water to make 1 litter of solution ?

A. 0.0002M HCI
B. 0.2 mole of NaCI with 0.2 mole of HNO3
C. 0.4 mole of CH3COOH with 0.4 mole of NaOH
D. 0.4 mole of NH3 with 0.2 mole of HCI

Chemical equilibrium state is_____?

A. dynamic state
B. static state
C. free state
D. unidirectional state

At start of reaction the concentration of reactants is_____?

A. high
B. low
C. according to Kc
D. constant

In case of gases Kc is replaced by_____?

A. Ka
B. Kb
C. Kp
D. K

When the value of Kc is very small then_____?

A. reaction is at start
B. product conc. Is maximum
C. reactant conc. Is minimum
D. reaction is completed

Idea of pH and pOH was put forward by_____?

A. Gibbs
B. Einstein
C. Sorenson
D. Chadwick

Ka<10-3 means_____?

A. Very strong base
B. Very weak acid
C. Very strong acid
D. Very strong salt

Which of the following is a macro nutrient ?

A. boron
B. iron
C. copper
D. carbon

Three elements needed for the healthy growth of plants are_____?

A. N P K
B. N K C
C. N S P
D. N Ca P

Residence time of methane in the atmosphere is_____?

A. 3 – 7 days
B. 2 -3 days
C. 3 – 7 years
D. 2 – 3 years

Hypochlorous acid is used for disinfecting the water it reacts with the dissolved ammonia producing_____?

A. NH2Cl
B. NHCI2
C. NCI2
D. all of the above

Acid present in acid rain may be_____?

A. H2SO4
B. HNO3
C. both A and B
D. none

Which of the following is not a condition for the formation of smog ?

A. sufficient NO
B. sunlight
C. less movement of air
D. winds

In which of the following layer of atmosphere there is more thickness of ozone layer ?

A. troposphere
B. stratosphere
C. mesosphere
D. photosphere

Which of the following air pollutants is more dangerous for ozone layer ?

A. CFC
B. CO2
C. CO
D. Oxides of nitrogen

Which statement is wrong ?

A. the amount of ozone layer is greater in the region close to the equator
B. ozone acts as filter for UV radiations
C. in the equatorial region it acts as pollutant
D. CFCs play effective role in removing O3 in the stratosphere

In the purification of portable water the coagulant used is_____?

A. alum
B. nickel sulphate
C. copper sulphate
D. barium sulphate

Newspaper can be recycled again and again how many times ?

A. 2
B. 3
C. 4
D. 5

The main pollutant of leather tanneries in the waste water is_____?

A. chromium III
B. chromium IV
C. chromium V
D. chromium VI

Which substance can be used for disinfecting water ?

A. KMnO4
B. Alums
C. Ozone
D. All

Which one of the following makes the bulk of hydrospheres content ?

A. oceans
B. glaciers & icecaps
C. fresh water lakes and ponds
D. All have equal distribution

The percentage of suspended solid waste in raw water is removed by coagulation is_____?

A. 60
B. 70
C. 80
D. 90

The main product of bacterial action is_____?

A. Nox
B. NO2
C. N2O3
D. NO

Pollutants have adverse effect over_____?

A. Biosphere
B. Ecosystem
C. Both a & b
D. Hydrosphere

Which of the following is not a heavy industry ?

A. iron
B. fertilizer
C. paper
D. none

Requirement of macronutrient per acre of the land is_____?

A. 5 to 200 kg
B. 20-200 kg
C. 200-400 kg
D. 30-400 kg

Which of the following is not a secondary pollutant_____?

A. ozone
B. carbonic acid
C. sulphuric acid
D. carbon dioxide

Major cause of SO2 on global scale is_____?

A. volcanoes
B. electric sparks
C. combustion
D. all

The yellow colour in photochemical smog is due to presence of_____?

A. dinitrogen oxide
B. nitrogen dioxide
C. chlorine gas
D. chlorine dioxide

Which of the following is not primary pollutant_____?

A. SO3
B. CO
C. NO
D. H2SO4

Which of the following gases is the main cause of acid rain ?

A. CO
B. NO2
C. both a & b
D. none of the above

Which of the following factors help to measure quallity of water ?

A. DO
B. BOD
C. COD
D. all of the above

A single chlorine free radical can destroy how many ozone molecules ?

A. 10
B. 100
C. 10000
D. 100000

Chlorination of water may be harmful if the water contains_____?

A. Ammonia
B. Dissolved oxygen
C. Carbon dixide
D. All

Which of the following is used as water disinfectant to avoid the formation of toxic compounds_____?

A. Cl2
B. O3
C. ClO2
D. both B & C

Ozone hole is substantial depletion of ozone in every year during_____?

A. Aug – Nov
B. Sep – Nov
C. Nov – Dec
D. Dec – Jan

Which of the following solutions of H2SO4 is more concentrated ?

A. 1 Molar solution
B. 1 molal solution
C. 1 normal solution
D. all have same concentration

Which of the following is an example of liquid in gas solution?

A. Opals
B. Dust particles in smoke
C. Paints
D. Fog

Which of the following are the conditions of colligative properties_____?

A. Non-electrolye solute
B. Non-volatile solute
C. Dilute solution
D. All of the above

When common salt is dissolved in water ?

A. Boiling point of water decrease
B. Boiling point of water increase
C. Boiling point of water remains same
D. None of the above

Homogeneous mixture of two or more than two compounds is called_____?

A. solution
B. compound
C. radical
D. ion

Solution with maximum concentration of solute at given temperature is called_____?

A. Super saturated solution
B. unsaturated solution
C. saturated solution
D. dilute solution

Number of moles in 1 kg of solvent is called_____?

A. normality
B. molarity
C. molality
D. mole fraction

In partially miscible liquids the two layers are_____?

A. saturated solutions of each liquid
B. unsaturated solutions of each liquid
C. normal solution of each liquid
D. no layer formation takes place

The relative lowering of vapour pressure is_____?

A. equal to the mole fraction of solvent
B. equal to the mole fraction of solute
C. directly proportional to the mole fraction of solute
D. both B & C

Mixtures which distill over without change in composition called_____?

A. zeotropic mixture
B. azeotropic mixture
C. amphoteric mixture
D. ideal solution

Solubility of KCIO3 gives_____?

A. continuous and falling solubility curve
B. discontinuous and falling solubility curve
C. continuous and rising solubility curve
D. discontinuous and rising solubility curve

Boiling point elevations can be measured by_____?

A. Beckmanns method
B. Landsbergers method
C. Linds method
D. none of the above

The compounds in which water molecules are added are called_____?

A. Hydrated ions
B. double salts
C. hydrates
D. complexes

Solution of Na2SO4 will be_____?

A. basic
B. acidic
C. neutral
D. cannot be presicted without data

1 molar solution of glucose in water contains weight of glucose_____?

A. 180g/dm3
B. 170g/dm3
C. 190g/dm3
D. 195g/dm3

Water of crystallization can be removed by_____?

A. drying
B. heating
C. evaporation
D. All of the above

Which one of the following salt does not hydrolyzed_____?

A. Na2SO4
B. AlCl3
C. CuSO4
D. NH4Cl

Which of the following unit of concentration is independent of temperature ?

A. Molarity
B. Molality
C. Mole fraction
D. all

The molal boiling point constant is the ration of the elevation of boiling point to_____?

A. Molarity
B. Molality
C. More fraction of solvent
D. Mole fraction of solute

Which has the minimum freezing point ?

A. One Molal NaCI
B. One molal KCI solution
C. One molal CaCI2
D. One molal urea solution

Which of the following substance do not show continuous solubility curve ?

A. KCIO4
B. Na2SO4. 10H2O
C. K2Cr2O7
D. PbCl2

Every sample of matter with uniform properties and fixed composition is called_____?

A. solute
B. solvent
C. solution
D. phase

The component of solution which is in smaller amount is called_____?

A. solvent
B. solute
C. phase
D. ion

10ml of alcohol dissolve in 90ml of water unit of concentration used is_____?

A. % w/w
B. % w/v
C. % v/v
D. % v/w

58.5g of of NaCl per 1 dm3 of solution of NaCl in water the concentration of solution will be_____?

A. 0.1 M
B. 1 m
C. 1 M
D. 0.1 N

If the volume of solution is equal to sum of volumes of its all components then the solution_____?

A. will be an ideal solution
B. will be non-ideal solution
C. will show deviations from Raoults law
D. both b & c

The solution which distils over with change in composition_____?

A. ideal solution
B. zeotropic solution
C. azeotropic solution
D. non-ideal solution

Concentration of solute molecule when they are in equilibrium with solid substance at particular temperature is called_____?

A. saturated solution
B. solubility
C. unsaturated solution
D. super saturated solution

The determination of correct molecular weight from Raoults law is applicable to_____?

A. a volatile solute in dilute solution
B. a non-electrolyte & non volatile solute in concentrated solution
C. a non-electrolyte & non volatile solute in concentrated solute
D. non volatile solute in a dilute solution

Beckmanns apparatus is used to measure_____?

A. boiling point elevation
B. depression in freezing point
C. lowering of vapour pressure
D. lowering of osmotic pressure

Hydration is a process in which_____?

A. Molecules are surrounded by solvent molecules
B. Ions are surrounded by solvent molecules
C. Both ions and molecules are surrounded by solvent molecules
D. Both ions and molecules are surrounded by water molecules

ppm means_____?

A. parts of solute in 1000 parts of solvent
B. parts of solvent in 1000 parts of solute
C. parts of solute in one million parts of solution
D. parts of solvent in one million parts of solute

The relative lowering of vapour pressure is directly proportional to molality if the solution is_____?

A. concentrated
B. dilute
C. saturated solution
D. all of the above

If electricity is passed through CuSO4 solution by using Pt electrode then which of the following possible change occurs ?

A. H2 is deposited at cathode
B. Colour of the solution becomes fade
C. Cu is deposited at anode
D. All are possible

Which has maximum oxidation number ?

A. N
B. Cr
C. S
D. Mn

In an electrolytic cell current flows ?

A. From cathode to anode in outer circuit
B. From anode to cathode outside the cell
C. From cathode to anode inside the cell
D. both B & C

In a galvanic cell_____?

A. Chemical energy is converted into electricity
B. Chemical energy is converted into heat
C. Electrical energy is converted into chemical energy
D. Electrical energy is converted into heat

Molten NaCl conducts electricity due to the presence of_____?

A. Free electrons
B. Free molecules
C. Free ions
D. Atoms of Na and Cl

Electricity in voltaic cell is produced due to_____?

A. neutralization
B. oxidation
C. reduction
D. both B & C

In electrolytic cell electricity carries_____?

A. spontaneous reaction
B. non-wpontaneous reaction
C. neutralization
D. all of above

In Galvanic cell electrons flow from anode to cathode through_____?

A. external electric circuit
B. salt bridge
C. movement of ions
D. all of the above

v**The strength of solution of an element whose electrode potential is to be measured is_____?**

A. 2M
B. 1N
C. 1m
D. 1M

Voltaic cell is a_____?

A. irreversible cell
B. reversible cell
C. alkaline cell
D. all of the above

Percentage of sulfuric acid in lead accumulator is_____?

A. 40%
B. 25%
C. 30%
D. 50%

The half cells are interconnected through_____?

A. wire
B. salt bridge
C. electric circuit
D. no connection exists

Which of the following element act as inert electrode_____?

CCu
B. Ag
C. Pt
D. None

Stronger the oxidizing agent greater is the_____?

A. Oxidation potential
B. Reduction potential
C. Redox potential
D. emf of cell

Which of the following cell is not rechargeable ?

A. Lead storage battery
B. Silver oxide cell
C. Fuel cell
D. Ni-Cd cell

Which of the following is true in the case of Zn-Cu cell ?

A. The flow of electrons takes place from copper to zinc
B. E0red of copper electrode is less than that of zinc electrode
C. Zinc acts as an anode and copper as cathode
D. All are correct

The degree of dissociation of week electrolyte increases as_____?

A. Pressure increases
B. Dilution decreases
C. Dilution increases
D. None

In electrolytic solution conductance of electricity is due to _____?

A. free electrons
B. ions
C. metals
D. electrodes

Reaction at anode is called_____?

A. oxidation
B. reduction
C. redox
D. decomposition

Decrease in oxidation number is called_____?

A. oxidation
B. reduction
C. oxidation-reduction
D. all of above represent same entity

Right half cell contains _____ electrode?

A. A1
B. Zn
C. Cu
D. Fe

Salt bridge transfers_____?

A. electrons
B. anion
C. current
D. ions

E0red of an element cab be calculated by comparing it with _____?

A. New electrode of same element
B. SHE
C. 1M solution of ions of respective element
D. 2M solution of HCI

Potential of SHE is considered as_____?

A. zero
B. unity
C. constant
D. multiple of 1

Electrode potential of Zn is_____?

A. oxidation
B. reduction
C. oxidation-reduction
D. depends on the nature of the coupled electrode

The element that act as anode always have _____ position in electrochemical cell?

A. higher
B. lower
C. in middle
D. no effect of position

Greater value of standard reduction potential greater will be tendency_____?

A. to get oxidized
B. to get reduced
C. to accept electrons
D. both B and C

Secondary cell is_____?

A. rechargeable
B. non rechargeable
C. electrolytic cell
D. Daniel cell

Density of H2SO4 in lead accumulator is_____?

A. 1.25g/cm3
B. 1.3g/cm3
C. 1.20g/cm3
D. 1.15g/cm3

In alkaline battery the anode is made up of_____?

A. MnO2
B. Zn
C. AgO2
D. cadmium

Apparent charge on atom in molecule is_____?

A. valency
B. coordination number
C. oxidation number
D. charge number

In K2Cr2O7 the oxidation number of chromium is_____?

A. 7
B. 6
C. -7
D. -6

The reduction potential Zn is_____?

A. 0.76
B. -0.76
C. -0.55
D. 0.55

Coordination number of the transition element in [Pt Cl NO2 (NH3)4]2- is_____?

A. 2
B. 6
C. 4
D. 8

The oxidation number of central metal atom in [Ni(CO)4] is_____?

A. 0
B. 2
C. 4
D. 6

Group VIB of transition elements contains_____?

A. Zn Cd Hg
B. Fe Ru Os
C. Cr Mo W
D. Mn Te Re

The leements in which d or f orbitals are in the process of completion are_____?

A. outer transition elements
B. inner transition elements
C. typical transition elements
D. transition elements

The melting points and boiling points upto meddle of 3d- series _____?

A. increases
B. decreases
C. remain same
D. no regular trend

Pure metal_____?

A. corrode slowly
B. corrode rapidly
C. does not corrode easily
D. none of these

The correct electronic configuration of Cr is_____?

A. [Ar]4s23d4
B. [Ar] 4s23d4
C. [Ar]4s03d5
D. [Ar]4s13d5

The oxidation state of transition elements is usually _____?

A. variable
B. constant
C. single
D. infinite

Non-stoichiometric compounds of transition elements are called_____?

A. hydrates
B. hydrides
C. binary compounds
D. interstitial compounds

The specie which donates electrons to central metal atom in coordination sphere is called_____?

A. anion
B. cation
C. Ligand is positively charged
D. acid

Which of the following can form a chealate_____?

A. ammine
B. oxalato
C. carbonyl
D. cyano

The compound or complex ion which has a ring in its structure_____?

A. polydentate ligand
B. chelate
C. monodentate ligand
D. hydrate

Geometry of the complex compounds usually depends upon _____?

A. type of ligands
B. types of hybridization in the elements of ligands
C. hybridization of central metal
D. All of above

In pig iron the concentration of C-atom is _____?

A. 0.12 — 0.25%
B. 2.5 — 4.5%
C. 2.0 — 4.0%
D. 0.25 — 2.5%

With impurities like P and S the open hearth furnace is lined with ?

A. SiO2
B. Fe2O3
C. FeO
D. CaO MgO

Which is sold as fertilizer _____?

A. CaSiO3
B. Na2SiO3
C. Ca3(PO4)2
D. MnSiO3

When an active metal like Al comes in contact with less active element like Cu then it produces_____?

A. dry cell
B. galvanic cell
C. electrolytic cell
D. A and B

Which of the following is typical transition metal ?

A. Sc
B. Y
C. Cd
D. Co

K2 (Cu(CN)4) which one is correct_____?

A. Potassium tetra cyano cupperate
B. Co-ordination number is 2
C. Ligand is positively charged
D. Central atom is present in avionic sphere

The location of transition elements is in between_____?

A. lanthanides & actinides
B. s and p block elements
C. chalcogens and halogens
D. d and f block elements

Compounds attracted by applied strong magnetic field are called_____?

A. diamagnetic
B. paramagnetic
C. good conductor
D. ferromagnetic

When light is exposed to transition element then electrons jump from lower orbitals to higher orbitals in_____?

A. orbitals of f-subshell
B. orbitals of d-subshell
C. orbitals of p-subshell
D. both A & B

When a compound of transition element is dissolved in a solution of salt then it produces_____?

A. simples ions
B. complex ions
C. double salts
D. strong anions

The species which donate two electron pairs in a coordination compound is called_____?

A. ligand
B. mono-dentate ligand
C. poly-dentate ligand
D. bi-dentate ligand

The central atom along with ligands is called_____?

A. complex ion
B. coordination sphere
C. ligand
D. complex compound

In complex compounds the oxidation number is written in_____?

A. English
B. Greek
C. Roman numeral
D. Hebrew

When the central atom of coordination compound is sp3d2 hybridization the expected geometry will be_____?

A. tetrahedral
B. square planar
C. trigonal bipyramidal
D. octahedral

In the production of wrought iron Mg Si and P are removed in the form of_____?

A. oxides
B. silicates
C. slag
D. carbonates

Any process of chemical decay of metals due to the action of surrounding medium is called_____?

A. activation
B. enameling
C. corrosion
D. coating

Polymers described as large molecules built up from small repeating units called_____?

A. Biopolymers
B. Dimers
C. Monomers
D. metamers

The important monomers of acrylic resins is_____?

A. Vinyl chloride
B. Styrene
C. Methylmethacrylate
D. Hexamethylenediamine

Industrial materials and thermal power stations are coated with_____?

A. Polyester resins
B. Epoxy paints
C. Polyamide resins
D. Polyvinyl chloride

Common example of carbohydrates are_____?

A. Cellulose glycogen galactose
B. Glyceraldehydes glucose peptone
C. Glycerol phospho lipids collagen
D. Legumin amylopectin albumin

Hydrolysis of an oligosaccharide in the presence of acid yields_____?

A. one monosaccharide unit
B. No monosaccharide unit
C. 2-9 monosaccharide unit
D. many monosaccharide

The process of polymerization was classified by_____?

A. Strecker
B. Sabatier
C. Runge
D. W. H. Carothers

Protein attached to some non protein group is called_____?

A. Derived protein
B. Sample protein
C. Proteoses
D. Conjugated protein

Lipids are soluble in_____?

A. Organic solvents
B. Organic and inorganic solvents
C. Inorganic solvents
D. Solubility has nothing to do with lipids

Animal and vegetable fats are_____?

A. Glycerols
B. Fatty acids
C. Triesters formed from glycerol and fatty acids
D. Tetraesters formed from glycerol and fatty acids

Triglycerides are easily hydrolyzed by enzymes called_____?

A. Lyases
B. Ligases
C. Lipases
D. Hydrolases

Saponification is the hydrolysis of fat or oil with an_____?

A. Acid
B. Alkali
C. Enzyme and alkali
D. Enzyme and acid

Enzymes from the same organism which catalyze same reaction but are chemically and physically distinct from each other are called_____?

A. Oxidoreductases
B. Hydrolases
C. Isoenzymes
D. Isomerases

Enzyme proved useful in cancer treatment is_____?

A. Lactic dehydrogenase
B. Alkaline phosphatase
C. L-asparaginase
D. Cellulase

Nucleic acids were first demonstrated in_____?

A. Pus cells
B. Sperm heads
C. 1872
D. all of the above

The mechanism by which the genetic information can be duplicated is called_____?

A. Duplication
B. Transcription
C. Replication
D. Mutation

The nitrogenous base different in RNA as compared to DNA is_____?

A. Cytosine
B. Thymine
C. Adenine
D. Guanine

A polymer in which three different monomers combine called_____?

A. Copolymer
B. Terpolymer
C. Homopolymer
D. Biopolymer

Polyester resins are the product of the reaction of_____?

A. Dihydric alcohol and dicarboxylic aromatic acids
B. Polyamines with aliphatic dicarboxylic acids
C. Styrene in the presence of catalyst
D. Epichlorohydrin with diphenylol propane

Carbohydrates are polyhydroxy compounds of_____?

A. Glucose
B. Glyceraldehydes
C. Oligosaccharides
D. Aldehydes and ketones

Nylon is obtained by heating_____?

A. Acrylic acid
B. Epichlorohydrin
C. Vinyl chloride
D. Adipic acid with hexamethylene diamine

Amylose is_____?

A. Soluble in water
B. Insoluble in water
C. Soluble in alcohol
D. Partially soluble in alcohol

All proteins yield _____ upon complete hydrolysis?

A. Nitrogen
B. Amino acids
C. Carbon and hydrogen
D. Sulphur

Regular coiling or zigzagging of polypeptide through hydrogen bonding is its_____?

A. Quantum structure
B. Secondary structure
C. Tertiary structure
D. Primary structure

Animal fats are located particularly in_____?

A. Skeleton tissues
B. Cardiac tissues
C. Connective tissues
D. Adipose tissues

Lipopolysaccharides are examples of_____?

A. Derived lipids
B. Simple lipids
C. Compound lipids
D. Not a type of lipids

Orgosterol is_____?

A. Orgocalciferol
B. Vitamin D2
C. Sterol
D. all of the above

Enzynies that catalyze the transfer of groups within molecule are called_____?

A. Isomerases
B. Lyases
C. Transferases
D. Ligases

Rate of enzymatic reaction is directly proportional to the concentration of_____?

A. Enzyme
B. Substrate
C. Enzyme and substrate
D. Enzyme and product

Purines and pyrimidines are_____?

A. Enzymes
B. Nitrogenous bases
C. Carbohydrates
D. Lipids

Nucleic acids direct the synthesis of_____?

A. Glucose
B. Triglycerides
C. Proteins
D. All

The fertility of the soil is improved by_____?

A. Rotation of the crops
B. Adding lime to the acid salts
C. Adding manure and growing legumes
D. All

The fertilizers which provide single nutrient from NPK are called _____ fertilizer?

A. straight
B. compound
C. both a and b
D. none of the above

Addition of urea to the soil is _____ reaction?

A. endothermic
B. exothermic
C. both a and b
D. no heat energy is involved

The cooling of molten urea by air in the tower is called_____?

A. prilling
B. evaporation
C. condensation
D. crystallization

DAP (Diammonium hydrogen phosphate) contains _____ plant nutrients?

A. 60%
B. 65%
C. 70%
D. 75%

Calcarious material includes_____?

A. lime stone
B. marble
C. chalk
D. all of the above

Which of the following processes is used for the synthesis of cement ?

A. dry process
B. wet process
C. both
D. none

How many zones through which the charge passes in a rotary kiln ?

A. 4
B. 3
C. 2
D. 5

Which one of the following set of raw material is most suitable for manufacture of urea ?

A. CH4 N2 and CO2
B. H2 N2 and CO
C. H2 CO2 and H2O
D. H2O N2 and H2

The percentage of nitrogen in urea is_____?

A. 36%
B. 46%
C. 56%
D. 66%

Which one of the following fertilizers provides the nitrogen and phosphorus to the plant ?

A. urea
B. calcium superphosphate
C. diammonium phosphate
D. potassium nitrate

Cement is a mixture of_____?

A. clay and clinker
B. clay lime stone and gypsum
C. lime stone and gypsum
D. lime stone and clay

Cement is a mixture of so many compounds roasted in rotary kiln. Which substances has greater percentage ?

A. Lime (CaO)
B. Silica (SiO2)
C. Alumina (Al2O3)
D. Magnesia (MgO)

Which sequence of steps is correct for the manufacture of cement ?

A. crushing heating mixing grinding
B. crushing mixing heating grinding and mixing
C. crushing grinding mixing heating
D. mixing heating grinding crushing

The composition of mixture of clay and lime stone in the raw for cement material is _____?

A. 75% lime stone and 25% clay
B. 25% lime stone and 75% clay
C. 15% lime stone and 55% clay
D. 55% lime stone and 15% clay

The important function of burning zone in the rotary kilm is _____?

A. to dry the moisture of slurry
B. to decompose lime stone to unslaked lime
C. combination of different oxides like CaO SiO2 Fe2O3 and Al2O3
D. to reduce the impurities

Which of the following is incorrect statement about nitrogen importance ?

A. It enhances plant growth
B. It is involved in the synthesis of protein and nucleic acids
C. it accelerates fruits and flowers growth
D. It is involved in the chlorophyll synthesis

Which of the following is macronutrient ?

A. Cu
B. Cl
C. H
D. Zn

Which of the following is the most suitable catalyst for ammonia synthesis ?

A. Pt
B. ZnO + Cr2O3
C. Fe in fused mixture of Al2O3 + SiQ2 + MgO
D. All of the above

Which of the following fertilizers is not useful for paddy rice ?

A. urea
B. DAP
C. Ammonium sulphate
D. Ammonium nitrate

Which of the following potassium fertilizers are more useful for horticultural crops tobacco & potatoes ?

A. KCI
B. KNO3
C. K2SO4
D. KMnO4

Argillaceous material does not include_____?

A. vlay
B. marine shells
C. slate
D. blast furnace slag

The nutrients which are required in very small amount for the normal growth of plants are called_____?

A. nitrogenous fertilizers
B. micronutrients
C. phosphorus fertilizer
D. all of the above

Which one of the following is an inorganic fertilizer ?

A. manure
B. urea
C. ammonium nitrate
D. All

The potassium present in plant help the plant to_____?

A. form starch sugar and fibrous material
B. ripen the seeds and fruits
C. increase the resistance against disease
D. all the above statements are correct

What is clinker ?

A. roasted calcareous material
B. roasted argillaceous material
C. roasted calcareous and argillaceous material
D. roasted gypsum

Phosphorus helps in the growth of_____?

A. root
B. leave
C. stem
D. seed

Which one of the following raw material is not present in the cement ?

A. lime stone
B. gypsum
C. KNO3
D. iron oxide

The sequence of zones in the rotary kiln are as_____?

A. dry zone burning zone decomposition zone cooling zone
B. cooling zone burning zone decomposition zone dry zone
C. burning zone cooling zone decomposition zone
D. dry zone decomposition zone burning zone cooling zone

The rate of reaction_____?

A. Increases as the reaction proceeds
B. Decreases as the reaction proceeds
C. Remains the same as the reaction proceeds
D. May decrease or increase as the reaction proceeds

The specific rate constant of a first order reaction depends on the_____?

A. Time
B. Concentration of the reactant
C. Temperature
D. Concentration of the product

The value of activation energy is primarily determined by_____?

A. Temperature
B. Effective collision
C. Concentration of reactants
D. Chemical nature of reactants and products

Spontaneous reactions are_____?

A. Moderate
B. Slow
C. Fast
D. not natural

Unit of rate of reaction is_____?

A. Moles dm-3 sec-1
B. Moles dm-3
C. Moles sec-1
D. Mol-1 dm3 sec-1

Rate of disappearance of reactant is equal to_____?

A. Rate of reaction
B. Rate of formation of product
C. Energy released during reaction
D. A and B

For 3rd order reaction the hhalf life is inversely proportional to initial concentration of reactants_____?

A. Single
B. Square
C. Cube
D. Raise to power four

Radiations are absorbed in_____?

A. Spectrophotometer method
B. Dilatometric method
C. Optical relation method
D. Refractometric method

Energy of reactant higher than energy of product favours A. Endothermic_____?

B. Exothermic
C. Moderate reaction
D. No reaction

Which of the following will have very high rate of reaction ?

A. Double decomposition reaction
B. Neutralization reaction
C. Ionic reactions
D. all of above

Anything which increases rate of reaction without being involved in the reaction_____?

A. Promoter
B. Catalyst
C. Inhibitor
D. All of the above

When catalysts and reactants are in more than one phase it is_____?

A. Homogeneous catalysis
B. Heterogeneous catalysis

C. Catalysis
D. Ea

Biocatalytical proteins are_____?

A. Enzymes
B. Substrate
C. Lipids
D. any of above

An enzyme has its specificity due to_____?

A. Substrate
B. Structure
C. Temperature
D. Pressure

A substance which increases the reactivity of enzyme is called_____?

A. Promoters
B. Inhibitors
C. Stimulators
D. Non-activators

When the reaction completes in more than one steps rate of reaction will be determined by_____?

A. Fast step
B. Slowest step
C. All steps
D. Molecularity of the reaction

Energy of activation for backward reaction is less than forward reaction for _____ reactio?

A. Endothermic
B. Exothermic
C. Moderate
D. Fast

Which statement is incorrect about catalyst_____?

A. it is used in smaller amount
B. decrease activation energy
C. specific in action
D. it affects specific rate constant

Which of the following type of reaction is 3rd order reaction_____?

A. $2N_2O_5 = 2N_2O_4 + O_3$
B. NO + O3 ? NO2 + O2
C. $2FeCl_3 + 6KI$? $2FeI_2 + 6KCl + I_2$
D. None of these

The addition of a catalyst to the reaction system_____?

A. Increases the rate of forward reaction only
B. Increases the rate of reverse reaction
C. Increases the rate of forward but decreases the rate of backward reaction
D. Increases the rate of forward as well as backward reaction equally

On increasing the temperature the rate of reaction increases mainly because_____?

A. The activation energy of the reaction increases
B. Concentration of the reacting molecules increases
C. Collision frequency increases
D. None of these

Sum of exponents of molar concentration is called_____?

A. Order of reaction
B. Molecularity
C. Rate of reaction
D. Average of reaction

In rate expression the concentration of reactants is negative. It shows_____?

A. Concentration of reactant does not change
B. Concentration of product increases
C. Concentration of reactant decreases
D. Concentration of reactant increases

When a graph is plotted between 1/T on X-axis and log k on y-axis a straight line is obtained with a negative slope which has two end in_____?

A. I and II quadrant
B. II and III quadrant
C. III and IV quadrant
D. II and IV quadrant

Rate of reaction when concentration of reactants are taken as unity is called_____?

A. Arrhenius constant
B. Molecularity
C. Specific rate constant
D. Ideal rate constant

Which order of reaction obeys the relation t1/2 = 1/Ka_____?

A. First order
B. Second order
C. Third order
D. Zero order

Activated complex is formed due to_____?

A. Pressure
B. Effective collision
C. Ineffective collisions
D. Temperature

Energy required to form transition state is called _____?

A. Ea
B. P.E
C. V
D. K.E

Greater the conc. Of reactant_____?

A. Greater will be dx/dt
B. Lesser will be dx/dt
C. dx/dt will be moderate
D. any of above

The substances that reduces the effectiveness of a catalyst are called _____?

A. Promoters
B. Poisoning catalysts
C. Inhibitors
D. pro-catalysts

Each catalyst has_____?

A. Specificity
B. Special structure
C. Its own Ea
D. all of above

A catalyst can not effect_____?

A. Products
B. Chemical equilibrium
C. Reactants
D. both A & B

Co-enzymes are_____?

A. Non proteineous
B. Proteineous
C. sugars
D. lipids

End name of enzyme is_____?

A. yl
B. ase
C. one
D. al

For determining the order of reaction we use_____?

A. Refractometric method
B. Dilatometric method
C. Optical activity method
D. Half life method

Elements in the same vertical group of the periodic table have same_____?

A. Number of valence electrons
B. Atomic number
C. Atomic mass
D. Atomic volume

Which set of elements is listed in order of increasing ionization energy ?

A. Sb < As < S < P < Cl
B. Cl < Sb < P < As < S
C. As < Cl < P < S < Sb
D. Sb < As < Cl < S < P

Which of the p-block elements are not representative elements ?

A. Alkali metals (I-A)
B. Group-14 elements (IV-A)
C. Group-18 elements (VIII-A)
D. Halogens (VII-A)

Which of the following will not form crystalline structure with opporitely charged ions_____?

A. H+
B. H-
C. Mg2+
D. Ca2+

Periodic table provides a basic framework to study elements with respect to their_____?

A. Physical properties
B. Chemical properties
C. Properties of their compounds
D. All

Concept of Triads was introduced by_____?

A. Dobereiner
B. Newland
C. Mendeleev
D. Al-Razi

Elements with similar chemical properties appear in the_____?

A. Same family
B. Same period
C. p block elements
D. Right upper corner

In modern periodic table all the leements are arranged in ascending order of_____?

A. Valency
B. Atomic mass
C. Atomic number
D. Valence electrons

Inner transition elements are called _____?

A. Lanthanides
B. Actinides
C. Rare earth metals
D. All

Non-metals usually form _____ oxides?

A. Acidic
B. Amphoteric
C. Neutral
D. All of the above

Best position of hydrogen in the periodic table is above I.A Group which is mainly due to_____?

A. Both are electropositive
B. Similar outer most shell electronic configuration
C. Both form ionic compounds
D. All

Which one of the following sets consists of all coinage metals ?

A. Cu Hg Au
B. Cu Ag Au
C. Ag Au Hg
D. Cu Fe Au

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D. All of the above

Best position of hydrogen in the periodic table is above I.A Group which is mainly due to_____?

A. Both are electropositive
B. Similar outer most shell electronic configuration
C. Both form ionic compounds
D. All

Which one of the following sets consists of all coinage metals ?

A. Cu Hg Au
B. Cu Ag Au
C. Ag Au Hg
D. Cu Fe Au

Many properties of an element and its compounds can be predicted from the position of the element in the periodic table. What property could not be predicted in this way ?

A. The nature of its oxides
B. The charge on its ions
C. The formula of its oxide
D. Its number of isotopes

The atomic radii decreases by increasing atomic number in_____?

A. Alkali metal
B. Alkaline earth metal
C. Elements from Li to Ne
D. Halogens

An element has electronic conviguration 1s2 2s2 2p2. It belongs to_____?

A. Group II-A
B. Group IV-A
C. Group VII-A
D. Group VI-A

Which of the following ion is stable in aqueous solution ?

A. H+
B. H-
C. Cl-
D. All are stable

The atoms of same element having same atomic number but different mass number are called_____?

A. Isobars
B. Isomers
C. Isotopes
D. Isotropes

Which order of ionization energy is correct_____?

A. Mg P
C. Mg > A1
D. both B & C

Shielding effect across the period_____?

A. Increases
B. Decreases
C. Can not be predicted
D. Remains constant

Higher value of electron affinity means_____?

A. Atom will lose electron easily
B. Atom will gain electron easily
C. Atom may form di-positive ion
D. The reason is unknown

Melting points of VII-A group elements down the group _____?

A. Increase
B. Decrease
C. Remain constant
D. No regular trend

Which of the following possesses maximum hydration energy ?

A. Na+
B. K+
C. Mg+2
D. Ca+2

True increasing order of acidity of the oxides of Mn is_____?

A. MnO < MnO2 < Mn2O7
B. Mn2O7 > MnO2 > MnO
C. MnO2 > MnO > Mn2O7
D. MnO2 > Mn2O7 > MnO

Which one of the following element has highest oxidation state in its compounds ?

A. Cr
B. Mn
C. Sn
D. O

Which of the following cannot exist in solution_____?

A. O-2
B. H+
C. Cl-
D. Na+

An element having low value of ionization energy and low value of electron affinity is likely to belong to_____?

A. Group IA
B. Group IB
C. Group VIIA
D. Group VIII

Which of the following always increases on going from top to bottom in a group ?

A. Metallic character
B. Electronegativity
C. Oxidizing power
D. Tendency to get reduced

Among halogens the highest boiling point is of_____?

A. Flrorine
B. Chlorine
C. Bromine
D. Iodine

The scientist who did not contribute in the construction of periodic table ?

A. Al-Razi
B. Moseley
C. Dobereiner
D. Democritus

Which element was not known when Mendeleev proposed his classification ?

A. Hydrogen
B. Sodium
C. Copper
D. Germanium

Noble gases are named so because they are_____?

A. less reactive
B. Zero group elements
C. Having completely filled valence shell
D. All

The longest period in the modern periodic table is_____?

A. 6th
B. 7th
C. 2nd and 3rd both
D. 5th

Seventh period contains _____ normal elements ?

A. 2
B. 4
C. 6
D. 8

Modern periodic table has been divided in _____ blocks?

A. 2
B. 4
C. 8
D. 7

Amphoteric exides are those which possess _____ properties?

A. Acidic
B. Basic
C. Acidic and basic
D. Neutral and acidic

Hydrogen resembles with carbon because of having_____?

A. Same number of electrons in the valence shell
B. Similar physical state
C. Remarkable reducing properties
D. Homovalent (show same valency)

In which of the following pairs are elements belonging to the same group ?

A. Boron & Beryllium
B. Nitrogen & Phosphorous
C. Magnesium & Aluminium
D. Gallium & Helium

Which one of the following is not a periodic property ?

A. Melting point of elements
B. Boiling point of elements
C. Ionization energy of elements
D. Coordination number of ions

Which discovery caused a revision in the periodic law as stated by Mendeleev ?

A. Location of nucleus by Rutherford
B. Atomic number by Moseley
C. X-rays by Roentgen
D. Natural radioactivity by Henry Bacquerel.

The property which increases upto group IV-A then decreases on wards_____?

A. Ionization energy
B. Atomic radii
C. Melting & boiling points
D. Atomic volume

Deuterium reacts with oxygen to form_____?

A. Hard water
B. Heavy water
C. Soft water
D. Water gas

Ionization energy depends upon_____?

A. Nuclear charge
B. Atomic size
C. Shielding effect
D. I.E depends upon all of the above and nature of orbital

Addition of 2nd electron to a uni negative ion is always_____?

A. Exothermic
B. Endothermic
C. Data is insufficient
D. Unpredictable

Metallic characters of alkali metals_____?

A. Increase down the group
B. Decrease down the group
C. No regular trend
D. Remain same

Oxidation state of an atom represents_____?

A. Number of electrons gained
B. Number of electrons lost
C. Apparent charge in compound
D. Its vacancies

Halides in which halogen atoms act as a bridge between two atoms of the other element are called_____?

A. Covalent halides
B. Electronegative halides
C. Polymeric halides
D. Polymeric hydrides

Iodine is solid due to_____?

A. Strong covalent bond
B. Large value of dipole moment

C. High polarizability
D. Strong hydrogen bonding

Keeping in view the size of atom which order is correct one ?

A. Mg > Sr
B. Ba > Mg
C. Lu > Ce
D. C1 > I

When – COOH is attached directly to the benzene ring the acid is called_____?

A. Aliphatic
B. Alicyclic
C. Carboxylic
D. Aromatic

The common thing in phthalic acid and oxalic acid is that both are_____?

A. Aromatic
B. Dicarboxylic
C. Hydrocarbons
D. Strong acids

The acid which is used as ink remover is_____?

A. Oxalic acid
B. Succinic acid
C. Adipic acid
D. Acetic acid

Which acid is the manufacture of synthetic rubber ?

A. Acetic acid
B. Formic acid
C. Carbonic acid
D. Benzoic acid

In the formation of Zwitter ions proton goes from_____?

A. Carboxyl to amino group
B. Amino to carboxyl group
C. Amino group only
D. Carboxyl group only

The organic acid that does not has COOH group is_____?

A. phthalic acid
B. carbolic acid
C. Maleic acid
D. Succinic acid

The test which is used for the identification of amino-acids is_____?

A. Ninhydrin test
B. Molisch test
C. Biuretic test
D. Benedict test

Carboxylic acid reacts with ammonia to form ammonium salts which on heating produces_____?

A. CO2
B. Alkane
C. Ester
D. Acidamide

The complete reduction carboxylic acid results in the formation of_____?

A. Alkyne
B. Alkene
C. Alkane
D. Alcohol

Picric acid is_____?

A. monocarboxylc acid
B. dicarboxylic acid
C. aromatic carboxylic acid
D. none of these

Essential amino acids are_____?

A. 5
B. 10
C. 15
D. 20

Which of the following is not a fatty acid ?

A. Propanoic acid
B. Acetic acid
C. Phthalic acid
D. Butanoic acid

The basic hydrolysis of ethyl acetate produces_____?

A. ethanol
B. acetic acid
C. ethanol and acetic acid
D. ethanol and sodium acetate

Which of the following is not an ester_____?

A. amyl acetate
B. sodium butyrate
C. isobutyle formate
D. octyl acetate

Which of the following has orange flavour_____?

A. isobutyl formate
B. octyl acetate
C. ethyl butyrate
D. amyl lactate

Amino acids present in cheese_____?

A. lysine
B. alanine
C. tyrosine
D. proline

Which of the following is an unsaturated carboxylic acid_____?

A. malonic acid
B. oxalic acid
C. succinic acid
D. maleic acid

The common name of propane 1 3-dioic is_____?

A. Oxalic acid
B. Aromatic acid
C. Malonic acid
D. Fumaric acid

The irritation caused by red ants bite is due to_____?

A. Lactic acid
B. Formic acid
C. Uric acid
D. Acetic acid

Which of the following is the strongest acid ?

A. Water
B. Formic acid
C. Acetic acid
D. Propanoic acid

Acidic amino acids have_____?

A. 2 amino groups and 1 carboxylic group
B. 1 amino and 1 carboxylic groups
C. 2 carboxylic groups and 1 amino group
D. 2 amino and 2 carboxylic groups

The term internal salt refers to_____?

A. Acidic character of amino acids
B. Basic character of amino acids
C. Dipolar character of amino acids
D. Non-polar structure of amino acids

Which one of the following acids is present in lemon juice ?

A. Citric acid
B. Benzoic acid
C. Tartaric acid
D. Oxalic acid

Which one of following amino acid is neither acidic nor a basic in nature ?

A. Lysine
B. Histidine
C. Proline
D. Glutamic acid

Glycine is the name of an amino acid because_____?

A. Sweet taste
B. Bitter taste
C. Shining appearance
D. Green colour

The organic acid that can be made from ethanol is_____?

A. Acetic acid
B. Formic acid
C. Butanoic acid
D. Citric acid

The formula of palmitic acid_____?

A. C15H31COOH
B. C13H27COOH
C. C17H33COOH
D. C17H35COOH

The aliphatic monocarboxylic acids are obtained by the hydrolysis of_____?

A. proteins and oild
B. fats and proteins
C. fats and oils
D. all above

An acid with unpleasant smell_____?

A. formic acid
B. acetic acid
C. propionic acid
D. butyric acid

Carboxylic acid on reduction with HI / phosphorous yields_____?

A. alkane
B. alcohols
C. aldehydes
D. ketones

The reaction of carboxylic acids with alcohols in presence of cone. H2SO4 is called _____?

A. esterification
B. neutralization
C. hydrolysis
D. saponification

Which of the following is not an amino acids_____?

A. glumatic acid
B. lactic acid
C. aspartic acids
D. glycine

Which of the following reaction is not shown by ketones ?

A. reaction with HCN
B. reaction with NaHSO3
C. reaction with 2 4 dinitrophenyl hydrazine
D. reaction with Fehling solution

Which of the following substances does not give iodoform test ?

A. acetaldehyde
B. ethyl alcohol
C. methyl alcohol
D. acetone

Which of the following aldehydes shows rapid reaction with sodium nitroprusside ?

A. formaldehyde
B. accetaldehyde
C. benzaldehyde
D. acetone

Which of the following reaction is not shown by ketones ?

A. reaction with HCN
B. reaction with NaHSO3
C. reaction with 2 4 dinitrophenyl hydrazine
D. reaction with Fehling solution

Which of the following substances does not give iodoform test ?

A. acetaldehyde
B. ethyl alcohol
C. methyl alcohol
D. acetone

Which of the following compounds will react with Tollens reagent ?

A. CH3-CHO
B. CH3-CH-CH3
C. CH3-COOH
D. CH3-CO-CH2-CH3

Cannizzaros reaction is not given by_____?

A. formaldehyde
B. acetaldehyde
C. benzaldehyde
D. trimethyl acetaldehyde

Ketones are comparatively less reactive than aldehdye. It is due to_____?

A. alkyl groups are electron donating
B. steric hindrance
C. Both A and B
D. none

Which of the following is not a use of formaldehyde ?

A. in silvery mirror
B. in making medicine urotropine
C. in making throat lozenges
D. in making acetic acid

Which of the following is not a use of acetaldehyde ?

A. formation of phenolic resins
B. formation of mirror
C. antiseptic inhalant
D. formation of throat lozenges

Formaldehyde condenses with phenol in the presence of dilute H2SO4 to yield_____?

A. Nylon 66
B. urotropine
C. Aniline formaldehyde plastic
D. Bakelite

Which of the following will not give addition reaction with NaHSO3_____?

A. HCHO
B. CH3CHO
C. CH3-CH2-CHO
D. None of the above

Which of the following compounds has the empirical formula CH2O and reacts with sodium hydroxide ?

A. carbonic acid
B. ethanol
C. acetic acid
D. methanoic acid

Oxidation of primary alcohol gives_____?

A. ketone
B. Aldehyde
C. Alkene then – COOH
D. Ester

Ncleophilic addition reactions are catalysed_____?

A. Acid
B. Base
C. Both A and B
D. None

Acetal on acid hydrolysis generates_____?

A. Alcohol
B. Ketone
C. Both A & B
D. None of the above

Tetrahydroborate ion is the source of_____?

A. proton
B. H+
C. both A & amp; B
D. H-

Dry distillation of calcium acetate results in the formation of_____?

A. formaldehyde
B. acetaldehyde
C. methane
D. acetone

Cannizaros reaction takes place through the transfer of _____ from complex anion?

A. hydrogen ion
B. hydride ion
C. oxide ion
D. methoxide ion

Iodoform test can be used to distinguish between_____?

A. ethanol and methanol
B. acetaldehyde and methanal
C. acetone and diethyl ketone
D. all of the above

Which of the following will have the highest boiling point ?

A. methanol
B. ethanal
C. propanal
D. hexanone

The carbon atom of carbonyl group is_____?

A. sp hybridized
B. sp2 hybridized
C. cp3 hybridized
D. dsp2 hybridized

Formalin is _____ solution of formaldehyde in water?

A. 10%
B. 20%
C. 40%
D. 60%

Acetone reacts with HCN to form a cyanohydrin. It is an example of_____?

A. electronphilic addition
B. electrophilic substitution
C. nucleophilic addition
D. nucleophilic substitution

Which of the following reactions may be assoclated with aldehyde and ketone ?

A. nucleophile addition
B. polymerization
C. oxidation
D. all of the above

Which of the following reagents will react with both aldehydes and ketones ?

A. Grignard reagent
B. Tollens reagent
C. Fehlings reagent
D. Benedicts reagent

Which of the following do not give aldol condensation reactions ?

A. formaldehyde
B. acetaldehyde
C. diemthyl ketone
D. propionaldehyde

Formaldehyde and lactose are combined to produce throat lozenges named as_____?

A. formamint
B. lactomint
C. aldomint
D. formalactose

Formula of haloform is_____?

A. HCOX
B. CX4
C. CHX3
D. CH3X

Formalin consists of mixture of formaldehyde methyl alcohol and water Percentage of water in it is_____?

A. 60%
B. 50%
C. 52%
D. 8%

On heating aldehydes with Fehlings solution we get a precipitate whose colour is_____?

A. pink
B. black
C. yellow
D. brick red

Aldehyde and ketone have same general formula for homologous series_____?

A. CnH2nO2n
B. CnH2n
C. CnH2nO
D. CnH2nOn+1

Ethanal is prepared industrially by air oxidation of ethylene using palladium chloride as catalyst and _____ as promoter?

A. PdCl2
B. Cu2Cl2
C. CuCl2
D. PbCl2

Acetaldehyele cyanohydrin on acid hydrolysis yields_____?

A. Tartaric acid
B. Propanoic acid
C. Lactic acid
D. Valeric acid

Which one exhibits aldol condensation_____?

A. HCHO
B. C6H5CHO
C. Cl3CCHO
D. CH3COCH3

Which of the following is a symmetrical ketone_____?

A. 3 – hexanone
B. acetone
C. butanone
D. 2-pentanone

In base catalyzed reaction of carbonyl compound the catalyst_____?

A. increases the nucleophilic character of reagent
B. increases electrophilic character of carbonyl compound
C. acidic character of reagent
D. both a and b

A elements are named as alkali metals because_____?

A. Their oxides are basic
B. Their oxide and hydroxides are water soluble
C. Both A & B
D. They are found in earth

Formula of Chile saltpetre is_____?

A. NaNO3
B. CaCO3
C. Ba (NO3)2
D. NH4Cl

The oxides of beryllium BeO is_____?

A. Acidic
B. Basic
C. Amphoteric
D. Neutral

Li is different from its family members due to_____?

A. small size
B. high charge density
C. less electropositivity
D. all of the above

Carbonates of lithium are not stable like that of sodium due to_____?

A. Low electronegativity
B. Low electropositivity
C. Low charge density
D. Not known yet

Which one of the following is not an alkali metal ?

A. Francium
B. Caesium
C. Rubidium
D. Radium

The element cesium bears resemblance with_____?

A. Ca
B. Cr
C. Both of the above
D. None of the above

Downs cell is used to prepare_____?

A. Sodium carbonate
B. Sodium bicarbonate
C. Sodium metal
D. Sodium hydroxide

Ammonia may be prepared by heating ammonium chloride with_____?

A. Water
B. NaCl
C. Aqueous sodium hydroxide
D. H2SO4

Crystals of Na2CO3. 10H2O when exposed to air_____?

A. Lose water and remain solid
B. Gain water and remain solid
C. Gain water and become liquid
D. Remains unchanged

Which one of the following gives white precipitate with aqueous solution of BaCl2?

A. NaHCO3
B. NaNO3

C. Na2CO3
D. Na2CrO4

The deliquescence is a property in which a solid_____?

A. Absorbs moisture and remains solid
B. Absorbs moisture and turns to liquid form
C. Loses water of crystallization
D. Increases the number of water of crystallization

In diaphragm cell level of brine in anode compartment is kept slightly higher which prevents_____?

A. Hydroxide ions to reach anode
B. Chlorine gas to mix
C. Cathode to decay
D. All of the above

Alkali and alkaline earth metals impart colours when heated over burner. It is due to_____?

A. Smaller electronegativity of alkali metals
B. Smaller ionic radius of these metals
C. De-excitation of electrons from higher energy levels to low energy level
D. Excitation of electrons from low energy levels to higher energy levels

First ionization potential of alkaline earth metal is greater than alkali metals because_____?

A. They are more reactive
B. They have greater atomic radii
C. They have smaller atomic sizes
D. All

NaOH is named as caustic soda because_____?

A. It corrodes the organic tissues
B. It is used in soda water
C. It reacts with chlorine gas
D. It reacts with fats to form soap

Carnalite has chemical formula_____?

A. KCI
B. KCI.MgCl2.6H2O
C. Na2B4O7.10H2O
D. CaCO3.MgCO3

Electrolysis of dilute solution of NaCl results at the anode_____?

A. sodium
B. hydrogen
C. chlorine
D. oxygen

Which ion will have maximum value of heat of hydration ?

A. A1+3
B. Cs+
C. Ba+
D. Mg+2

Which one is natron ?

A. Na2CO3
B. Na2CO3.10H2O
C. Na2CO3.H2O
D. NaHCO3

Which one is least ionic in nature and decompose on heating ?

A. LiOH
B. NaOH
C. KOH
D. CsOH

The word Alkali means_____?

A. Base
B. Basic salt
C. Ashes
D. Spirit

Which element is necessary for normal leaf development ?

A. Si
B. Ba
C. Mg
D. Ca

Nitrates of which pair of elements give different products on thermal decomposition ?

A. Na K
B. Mg Ca

C. Li Na
D. Li Ca

Which of the following sulphates is not soluble in water ?

A. Sodium sulphate
B. Potassium sulphate
C. Zinc sulphate
D. Barium sulphate

The ore CaSO4.H2O has the general name_____?

A. Gypsum
B. Dolomite
C. Calcite
D. Plaster of Paris

Which one of the following substances conducts electricity by the movement of ions ?

A. Graphite
B. Copper
C. Molten sodium chloride
D. Mercury

Which one of the following carbonate is water insoluble ?

A. Na2CO3
B. K2CO3
C. (NH4)2CO3
D. CaCO3

In diaphragm cell hydrogen is discharged by the reduction of_____?

A. Water
B. HCI
C. Na+
D. NaCl

Gypsum is applied to the soil as a source of_____?

A. Ca and P
B. S and P
C. Ca and S
D. we could not apply

Which one of the following alkali metals forms only normal oxide when it reacts with O2 ?

A. Lithium
B. Sodium
C. Potassium
D. Rubidium

Which one of the following pairs shown diagonal relationship in the periodic table ?

A. Sodium and Lithium
B. Lithium and magnesium
C. Lithium and beryllium
D. Boron and Beryllium

Sodium is not observed in +2 oxidation state because of its_____?

A. high first ionization potential
B. high second ioniation potential
C. high ionic radius
D. high electronegativity

Magnesium metal does not burn in the vessel containing_____?

A. N2
B. O2
C. N2 and O2
D. Ne

Second ionization potential of alkali metals are very high due to_____?

A. being s-block elements
B. inert gas configurations
C. ns1 electronic configuration
D. being metals

Which one can form complex ?

A. Na
B. Cr
C. Li
D. K

Addition of 2% gypsum in cement_____?

A. Triggers hydration
B. Triggers hydrolysis
C. Prevents rapid hardening
D. all of the above

Phenanthrene is a fused polycyclic compound contains _____ benzene rings ?

A. Two
B. Three
C. Four
D. Five

How many electrons are there in benzene to form delocalized electron cloud_____?

A. 3
B. 4
C. 6
D. 8

When benzene is substituted by halogens only which one of the following halogens only which one of the following halogens is given the number one position in the ring while writing the name of compound ?

A. Bromine
B. Chlorine
C. Fluorine
D. Iodine

Michael Faraday discovered benzene in the gas which was produced by destructive distillation of vegetable oil that is done in_____?

A. The presence of Oxygen
B. The presence of Hydrogen
C. The absence of Oxygen
D. The presence of excessive Oxygen

How many moles of H2 are added up when benzene is heated with hydrogen in the presence of platinum ?

A. Two
B. Three
C. Four
D. Six

The resonance energy of benzene is_____?

A. 150.5 kJ/mol
B. 250.5 kJ/mol
C. 150.5 Cal/mol
D. 250.5 Cal/mol

What catalyst is employed when benzene is prepared from acetylene at 70°C?

A. Cr2O3 + A2O3 + SiO2
B. Raney nickel
C. Organo-nickel
D. Ni 250 – 300°C

Which one of the following methods will not give benzene ?

A. Heating sod. Salt of Benzoic acid with soda lime
B. Distilling phenol with Zn dust
C. Chlorobenzene with NaOH at 360°C & 150atm.
D. Hydrolysis of benzene sulphonic acid with super heated steam

Reacting bromine with benzene in the presence of sunlight will result in_____?

A. The rupturing of benzene ring
B. Substitution reaction
C. Addition reaction
D. No-reaction

During sulphonation of benzene H2SO4 generates the electrophile _____?

A. HSO4-
B. SO2
C. SO3
D. H+

Which compound will readily undergo sulphonation ?

A. Benzene
B. Nitro benzene
C. Toluene
D. Chlorobenzene

Which one of the following statement is not correct about benzene ?

A. On hydrogenation 208 KJ/mole is liberated
B. C-H bond length in benzene is 1.09 A?
C. Molecular mass of benzene is 78.108
D. Resonance energy of benzene is 150.5 K Cal/mole

Replacement of hydrogen of benzene by alkyl group in the presence of alkyl halide & aluminum chloride is known as_____?

A. Dows process
B. Friedel & Craft acylation
C. Friedel & Craft alkylation
D. Clemmenson reduction

Which compound form benzoic acid on oxidation with acidified KMnO4 or K2Cr2O7 ?

A. Toluene
B. Ethyl benzene
C. n-propyl benzene
D. All

What is the molecular formula of Benzenetriozonide ?

A. C6H6O9
B. C6H5O8
C. C6H5O9
D. C6H6O6

The hydrolysis of Benzenetrizonide will yield three moles of_____?

A. Glyoxime
B. Benzaldehyde
C. Glycol
D. Glyoxal

In benzene sulphonic acid the sulphonic group is attached with benzene ring through _____?

A. Hydrogen
B. Oxygen
C. Sulphur
D. OH

Aniline is a derivative of benzene which contains_____?

A. Imino group
B. Amino group
C. Amide group
D. Nitro group

Nitration of chlorobenzene gives_____?

A. o – chloronitrobenzene
B. p – chloronitrobenzene
C. m – chloronitrobenzene
D. A & B

By which method the molecular mass of benzene was determined as 78.108 ?

A. Specific gravity method
B. Vapour density method
C. X-ray diffraction method
D. Distillation methos

Chlorination of toluene in the presence of sublight produces_____?

A. Benzyl chloride
B. o – chlorotoluene
C. p – chlorotoluene
D. benzoic acid

Mixture of catalysts Cr2O3 + A?2O3 + SiO2 at 500?C are used when benzene is prepared from_____?

A. acetylene
B. N-hexane
C. Benzene sulphonic acid
D. Sodium benzoate

Which is fused cyclic aromatic compound _____?

A. diphenyl amine
B. diphenyl methane
C. naphthalene
D. biphenyl

Acetophenone is a_____?

A. Ether
B. Ketone
C. Aldehyde
D. Ester

Benzene does not undergo_____?

A. Substitution reaction
B. Addition reaction
C. Polymerization reactions
D. Oxidation reactions

Nitronium ion is_____?

A. NO3
B. NO
C. NO2-
D. NO2+

Benzene is heated in air with V2O5 at 450°C it undergoes_____?

A. Substitution reaction
B. Addition reaction
C. Elimination reaction
D. Oxidation reaction

The preparation of benzene from acetylene can also be said as_____?

A. Oxidation
B. Polymerization
C. Dehydration
D. Condensation

Ozonolysis of benzene produces_____?

A. Glycol
B. Glyoxal
C. Vicinal diol
D. Both B & C

Boron is non-netal whereas A1 is metal. It is due to_____?

A. Small size
B. High nuclear charge
C. Both A and B
D. No authorized justification yet

One of the outstanding features of boron is its ability to form_____?

A. Molecular addition compounds
B. Molecular crystals
C. Semiconductors
D. Ionic compounds

Borax is a white crystalline solid and it is_____?

A. More soluble in cold water
B. More soluble in hot water
C. Insoluble in water
D. Soluble only in organic solvents

Special features of borate glass is that it is_____?

A. Heat resistant
B. Low melting
C. Used to prepare chemical garden
D. Green in colour

Aluminium oxide is_____?

A. Acidic oxide
B. Basic oxide
C. Amphoteric oxide
D. It does not exists

Which electronic configuration corresponds to an element of group IIIA ?

A. 1s2 2s2 2p3
B. 1s2 2s2 2p6 3s2 3p1
C. 1s2 2s2 2p4
D. 1s2 2s2 2p6 3s2 3p6 4s2 3d1

In network of silica (SiO2) each silicon atom is surrounded by _____ atoms of osygen?

A. 4
B. 2
C. 1
D. 6

Orthoboric acid is 2.6% soluble in water at 40?C and _____at 107°C.

A. 26%
B. 27%
C. 37%
D. <2.6%

Because of its ability to combine with both oxygen and nitrogen aluminium metal is used_____?

A. As nitrometer
B. To remove air bubbles from molten metal
C. To produce alloy
D. As insulator

Silicon differ from siliWhich of the following shows inert pair effect ?

A. boron
B. carbon
C. silicon
D. tin

Tincal is a mineral of_____?

A. A1
B. Si
C. B
D. C

Which one of the following is not a semiconductor ?

A. Si
B. Ge
C. Se
D. Sn

The process of aluminium extraction is called_____?

A. Hall process
B. Thermite process
C. Haber process
D. Contact process

Aqueous solution of borax above 62°C gives crystals of_____?

A. Na2B4O7.4H2O
B. Na2B4O7.5H2O
C. Na2B4O7.2H2O
D. Na2B4O7.10H2O

Which of the following is not a use of silicon ?

A. Lubricants
B. Hydraulic brakes
C. Antifreeze
D. Water repellent

CO2 is gas while SiO2 is solid at room temperature?

A. carbon is non-metal while silicon is semi-metal
B. CO2 is an independent molecule while SiO2 has network covalent structure
C. CO2 forms multiple bond while silicon does not form multiple bonds
D. Silicon has all sigma bonds

Identify the correct statement regarding CO_____?

A. it combines with H2O to form carbonic acid
B. it reacts with red blood cells of haemoglobin
C. it is powerful oxidizing agent
D. it is used to prepare aerated drinks

Boric acid cannot be used_____?

A. As antiseptic in medicine
B. For washing eyes
C. In soda bottles
D. For enamel and glazes

Which element can form tripositive ion ?

A. Beryllium
B. Carbon
C. Silicon
D. Aluminium

Which of the following is different with respect to physical appearance ?

A. Arsenic
B. Phosphorus
C. Antimony
D. Bismuth

Compounds of nitrogen and phosphorus are mostly_____?

A. ionic
B. covalent
C. polar
D. all varieties are possible

SO3 is not absorbed in water directly because_____?

A. Reaction is exothermic
B. It is insoluble in water
C. Dilute acid is produced
D. All of above

Which of the following will give phosphoric acid one reaction with water_____?

A. PCI5
B. P2O3
C. P2O5
D. All of the above

Phosphorus is a Greek word and it means_____?

A. Light bearing
B. Fire
C. Impure
D. Tetrahedral

Allotropic form of phosphorus that is poisonous is_____?

A. White
B. Red
C. Black
D. Violet

Acetic anhydride can be obtained by treating ethyl alcohol with_____?

A. P2O5
B. H2SO4
C. Both A and B
D. PCI5

Phosphorous acid upon thermal decomposition yields phosphoric acid and_____?

A. Phosphine
B. Phosphorus
C. Water
D. Phosphorus pentoxide

P2O5 is a hygroscopic powder which sublimes at_____?

A. 260°C
B. 360°C
C. 630°C
D. 620°C

Phosphoric acid is a weak acid and its basicity is_____?

A. 1
B. 3
C. zero
D. 2

All the elements in group VIA are _____ in nature?

A. hygroscopic
B. metals
C. polymeric
D. all of above

Which allotropic form of phosphorous is the most stable ?

A. White
B. black
C. red
D. Violet

The chemical composition of cinnabar is_____?

A. ZnS
B. PbS
C. HgS
D. FeS

Oxygen and sulphur resemble in all except_____?

A. Electronic conviguration of valence shell electrons
B. Show allotropy
C. Polymeric
D. Show same oxidation state

Arsenic oxides are removed by passing through_____?

A. Ferric hydroxide
B. Sodium hydroxide
C. Calcium hydroxide
D. Aluminium hydroxide

When sulphuric acid is treated with ethanol sulphuric acid behaves like_____?

A. an acid
B. a dehydrating agent
C. an oxidizing agent
D. as sulphonating agent

Which one of the followings possesses melting point below 0°C?

A. Nitrogen
B. Phosphorus
C. Carbon
D. Bismuth

The most electronegative element among the following is_____?

A. Sb
B. N
C. As
D. P

Phosphene gas will be produced if phosphorous acid is subjected to_____?

A. Oxidation
B. Reduction

C. Decomposition
D. Both b & c

Which one of following is not a property of pure quartz ?

A. Coloured solid
B. Brittle
C. Hard
D. All of above

Which of the following does not contain phosphorus ?

A. Yolk of egg
B. Bone
C. Nerves
D. Steel

Which one of the following is not the use of graphite ?

A. Lead pencils
B. Abrasive
C. Lubricant
D. Electrode of electrolytic cell

The composition of brown ring in nitrate test is_____?

A. FeSO4.No
B. FeSO4.No2
C. FeSO4.No3
D. FeSO4.N2o

Which one of the following compounds usually smells like garlic ?

A. P2O3
B. P2O5
C. H3PO3
D. All have same smell

The element of group VIA which is a non-metal is_____?

A. S
B. Se
C. Te
D. Po

Which of the elements show passivity when treated with conc. HNO3?

A. Fe
B. A
C. Cr
D. All of the above

The gas which cannot be dried by conc. H2SO4 ?

A. SO2
B. H2S
C. CO2
D. C2H4

FeSO4 forms brown ring with_____?

A. N2O3
B. NO2
C. NO
D. N2O

Oxygen does not react with all except_____?

A. Alkali
B. Acid
C. Water
D. Metals

In which compound nitrogen has maximum oxidation state_____?

A. N2O
B. NO2
C. HNO2
D. HNO3

Among the halogens the rare element is_____?

A. Fluorine
B. Chlorine
C. Astatine
D. Iodine

Vander Waals forces are stronger in_____?

A. F2
B. Cl2
C. Br2
D. I2

The most powerful oxidizing agent among the halogens is_____?

A. F2
B. Cl2
C. Br2
D. I2

The halogen which reacts spontaneously with gold (Au) to form Au+3 is _____?

A. F2
B. Cl2
C. Br2
D. I2

The halogen which reacts very slowly with halogen is_____?

A. Fluorine
B. Chlorine
C. Bromine
D. Iodine

The halogen having highest electron affinity is_____?

A. Fluorine
B. Chlorine
C. Bromine
D. Iodine

Bromine can be liberated from KBr solution by the action of _____?

A. Iodine solution
B. Chlorine
C. NaCl
D. Ki

Consider the following reaction- 2KCIO3 + H2C2O4 + H2SO4 ? K2SO4 + 2H2O + 2CO2 + Oxide Which oxide of chlorine is produced in the above reaction ?

A. Cl2O
B. ClO2
C. Cl2O6
D. Cl2O7

Consider the following reaction- 3Cl2 + 6NaOH ? NaClO3 + 5NaCl + 3H2O This reaction is_____?

A. Displacement reaction
B. Double displacement reaction
C. Disproportionation reaction
D. Reduction reaction

Which of the halogen can displace other three elements ?

A. Flourine
B. Chlorine
C. Iodine
D. Bromine

The chemical formula of sodium hypochlorite is_____?

A. NaCLO
B. NaClO2
C. NaClO3
D. NaClO4

Bleaching powder is not used for bleaching_____?

A. Cotton
B. Costly fabrics
C. Linen
D. Paper pulb

Which of the following is not use of compounds of Fluorine_____?

A. SbF3 is used for manufacture of pottery
B. Sodium fluoroacetate is a rat poison
C. Cu F2 is used in ceramic industry
D. None of the above

Photographic plates are coated with a thin film of _____?

A. AgNO3
B. AgI
C. AgCl
D. AgBr

Indicate the correct statement_____?

A. Cl2 is the strongest oxidizing agent
B. I2 is a volatile solid
C. Br2 is more reactive than Cl2
D. Cl2 is insoluble in water

Which one of the following halogens is present in Teflon_____?

A. I2
B. Br2
C. Cl2
D. F2

Which is the paramagnetic oxide of chlorine ?

A. Cl2O7
B. Cl2O6
C. ClO2
D. all

The colour of chlorine gas is_____?

A. pale yellow
B. freenish yellow
C. reddish brown
D. grayish black

Which of the following statements is incorrect about fluorine_____?

A. fluorine is restricted to -1 oxidation state
B. fluorine follows octet rule and as well as extended octet rule
C. fluorine has lowest dissociation energy among the halogens
D. both B and C

Which one of the following is the weakest acid in water_____?

A. HF
B. HCI
C. HBr
D. HI

Which of the following represents the correct electronic configuration of VII A group elements in the ground state ?

A. ns2p2
B. ns2p4
C. ns2p5
D. ns2p6

Which is the strongest acid ?

A. HCIO
B. HCIO2
C. HCIO3
D. HCIO4

Bleaching powder is an example of_____?

A. Normal salt
B. Double salt
C. Mixed salt
D. Complex

Which of the following oxides of iodine is used for quantitative analysis of CO ?

A. I2O4
B. I4O2
C. I2O5
D. All are equally useful

Which of the halogen has highest electronegativity ?

A. Fluorine
B. Chlorine
C. Bromine
D. Iodine

Which of the following statements is incorrect about halogens ?

A. All are non-metals
B. All the halogens have electronic conviguration ns2p5
C. They have high electron attinity and ionization energy
D. All the halogens react with noble gases to form their halides

Fluorine can react with_____?

A. Xe
B. Kr
C. Rn
D. All of the above

Which of the following is the weakest reducing agent ?

A. HF
B. HBr
C. HC
D. HI

In which compound of Xenon the oxidation state of Xenon is + 6?

A. XeF4
B. XeOF4
C. XeOF2
D. Na4XeO6

The anhydride of HCIO4 is_____?

A. Cl2O
B. Cl2O6

C. ClO2
D. Cl2O7

Alkanes containing a methyl group on main chain at 2nd carbon are called_____?

A. iso-alkane
B. normal-alkane
C. neo-alkane
D. branched-alkane

Alkanes are also known as_____?

A. saturated hydrocarbon
B. unsaturated hydrocarbon
C. paraffins
D. both A & C

Hydrogenolysis results in the formation of_____?

A. alkane
B. alkene
C. alkyne
D. aldehydes

Removal of CO2 is called_____?

A. carboxylation
B. decarboxylation
C. esterification
D. hydroxylation

Molozonide is unstable and changes into ozonide on_____?

A. reduction
B. oxidation
C. hydrolysis
D. rearrangement

R-Mg-Br is called_____?

A. Grignard reagent
B. Metallic alkyl halide
C. Both A & B
D. Alkyl

Which of the following is the most reactive_____?

A. ethane
B. ethyne
C. ethene
D. benzene

Introduction of nitro group in a molecule is called_____?

A. nitration
B. halogenation
C. sulphonation
D. amination

The gas used in manufacturing of urea fertilizer_____?

A. C2H6
B. C2H4
C. C2H2
D. CH4

Which of the following will be acidic_____?

A. propyne
B. 1-butyne
C. ethyne
D. all of the above

Alkenes are produced from dehalogenation of_____?

A. dihalo alkane
B. trihalo alkane
C. vicinal dihalo alkane
D. vicinal trihalo alkane

In unsaturated hydrocarbons electrons favour_____?

A. less reactivity
B. addition reactions
C. substitution reactions
D. none

Which one is Chloroform_____?

A. CH2Cl2
B. CH3Cl
C. CHCl3
D. CCl4

Which is used for artificial ripening of fruit ?

A. ethane
B. ethene

C. ethyne
D. methane

Preparation of vegetable ghee involves_____?

A. halogenation
B. hydroxylation
C. hydrogenation
D. hydration

Which is methyl cyanide_____?

A. CH3NH2
B. CH3NO2
C. CH3CN
D. CH2 = CH – CN

When one hydrogen atom of alkane is removed then it is called_____?

A. alkene
B. alkyl
C. aldehyde
D. saturated hydrocarbon

Sabatier Senderns reaction involve _____ in presence of Ni?

A. Aalkene & H2
B. alkene & O2
C. alkene & N2
D. alkyne & Cl2

Clemmensens reduction infolves the reduction of_____?

A. ketone
B. aldehyde
C. alkane
D. all of the above

Soda lime is a mixture of_____?

A. CaO and KOH
B. CaO and NaOH
C. NaOH and Na2O
D. Na2O and KOH

Dehalogenation of ethyl tetrahalide will give_____?

A. ethene
B. ethyne
C. ethyl halide
D. all of the above are possible

Upto _____ C atoms alkanes are gases?

A. 2
B. 3
C. 4
D. 6

Incomplete oxidation of methane in the limited supply of air forms ?

A. CO2 and H2O
B. CH3OH
C. CO + H2 + C
D. CO + H2O + C

Order of ease of halogenation in alkane is_____?

A. I2>Cl2>Br2>F2
B. F2>Cl2>I2>Br2
C. F2>Cl2>Br2>I2
D. Cl2>F2>Br2>I2

General formula of alkyne is_____?

A. CnH2n + 2
B. CnH2n – 2
C. CnH2n
D. CnH2n + 2

Removal of halogen and hydrogen atom is_____?

A. halogenation
B. dehalogenation
C. dehydrohalogenation
D. hydrohalogenation

Reactivity due to pi-electrons is present in_____?

A. alkane
B. alkene
C. alkyne
D. both B & C

Raney nickel is prepared from _____ by treating with caustic soda?

A. Ni-Cu alloy
B. Ni-Fe alloy
C. Ni-Al alloy
D. Ni-Mg alloy

Vinylacetylene combines with HCI to form_____?

A. polyacetylene
B. benzene
C. chloroprene
D. divinyl acetylene

Which C-X bond has the highest bond energy per mole ?

A. C-F
B. C-C
C. C-Br
D. C-I

Ethyl chloride with nascent hydrogen produces_____?

A. methane
B. ethane
C. propane
D. butane

The number of molecules taking part in the rate determining step is called_____?

A. Order of reaction
B. Rate of reaction
C. Mole of a reaction
D. Extent of a reaction

What will be the order of reaction of a reaction whose rate can be expressed as R = K [A] [B] ?

A. Zero
B. One
C. Two
D. Three

What is the order of kinetics in the SN1 mechanism ?

A. Zero
B. First
C. Second
D. Third

The rate of E1 reaction depends upon_____?

A. the concentration of substrate
B. the concentration of nucleophile
C. the concentration of substrate as well as nucleophile
D. base the concentration of substrate as well as nucleophile

Elimination bimolecular reactions involve_____?

A. first order kinetics
B. second order kinetics
C. third order kinetics
D. zero order kinetics

Grignard reagent is reactive due to_____?

A. the presence of halogen atom
B. the presence of magnesium atom
C. the polarity of C-Mg bond
D. all

The ether used in Wurtz synthesis is_____?

A. acidic
B. basic
C. aqueous
D. dry

Which one of the following species is not an electrophile ?

A. NH3
B. Br+
C. H+
D. BF3

Which one of the following alcohols will be formed when ethyl magnesium bromide reacts with acetone ?

A. primary alcohol
B. secondary alcohol
C. tertiary alcohol
D. dihydric alcohol

Which one of the following molecules does not form alcohol when reacts with Grignard reagent ?

A. formaldehyde
B. acetaldehyde
C. propanone
D. carbondioxide

In primary alkyl halides the halogen atom is attached to a carbon which is further attached to how many carbon atoms_____?

A. two
B. three
C. one
D. four

The best method of preparation of alkyl halides is a reaction of alcohol with_____?

A. Zn / HCI
B. SOCl2 / Pyridine
C. PCI3
D. PCI5

50% inversion of configuration of molecules take place in a_____?

A. E1 – reaction
B. E2 – reaction
C. SN1 – reaction
D. SN2 – reaction

Which alkyl halide has the highest reactivity for a particular alkyl group ?

A. R-F
B. R-C
C. R-Br
D. R-I

Which one is not a nucleophile ?

A. C2H5O-
B. SCN-
C. NH3
D. H3C+

Which alkyl halide out of the following may follow both SN1 and SN2 mechanism ?

A. CH3-X
B. (CH3)3 C-CH2 – X
C. (CH3)2 CH – X
D. (CH3)3 C – X

When two moles of ethyl chloride react with two moles of sodium in the presence of ether what will be formed ?

A. 2 moles of ethane
B. 1 mole of ethane
C. 2 moles of butane
D. 1 mole of butane

When CO2 is made to react with ethyl magnesium iodide followed by acid hydrolysis the product formed is _____?

A. propane
B. propanoic acid
C. propanal
D. propanol

SN2 reaction can be best carried out with_____?

A. primary alkyl halide
B. secondary alkyl halide
C. tertiary alkyl halide
D. all

For which mechanisms the first step involved is the same ?

A. E1 + E2
B. E2 + SN2
C. E1 and SN1
D. SN1 and SN2

Alkyl halides are considered to be very reactive compounds towards nucleophile because_____?

A. they have an electrophilic carbon
B. they have an electrophilic carbon & a good leaving group
C. they have an electrophilic carbon & a bad leaving group
D. they have a nucleophilic carbon & a good leaving group

Which one of the following reactants will be required to form straight chain alcohol by using Grignard reagent_____?

A. formaldehyde
B. ketone
C. ethylene epoxide
D. both A & C

Ethylene epoxide treated with Grignards reagent followed by acid hydrolysis yield _____?

A. primary alcohol
B. secondary alcohol
C. tertiary alcohol
D. dihydric alcohol

Alkyl halides undergo a type of reaction_____?

A. Nucleophilic substitution
B. Nucleophilic addition
C. Elimination
D. both A & C

Which one of the following is termed as benzul alcohol ?

A. C6H5OH
B. C6H5CH(OH)2
C. C6H5CH2OH
D. C6H5COOH

Which one of the following is also known as tartaric acid ?

A. 2 3-dihydroxy butance 1 4 -dioic acid
B. 2 3 -dihydroxy butanedioic acid
C. 2 3 -dihydroxy butanioc acid
D. 2 2 -dihydroxy butanoic acid

The residue obtained after the crystallization of sugar from concentrated sugar cane juice is called_____?

A. Mother liquor
B. Filterate
C. Extract
D. Molasses

The process of fermentation of starch involve many enzymes the sequence of enzymes used are_____?

A. Diastase-maltase-zymase
B. Zymase-maltase-diastase
C. Maltase-diastase-zymase
D. Diastase-zymase-maltase

K2Cr2O7/H2SO4 generate_____?

A. Oxygen
B. Hydrogen
C. Nascent oxygen[O]
D. Nascent hydrogen[H]

Which alcohol will undergo elimination reaction to give alkene in the presence of acidic potassium dichromate ?

A. Primary alcohol
B. Secondary alcohol
C. Tertiary alcohol
D. All of above

Which compound is also known by the name of carbolic acid ?

A. C2H2OH
B. H2CO3
C. C6H5OH
D. H3PO3

Heating phenol with Zn will yield_____?

A. Benzene
B. Benzoic acid
C. Phenoxide
D. Cyclohexane

Treating phenol with formaldehyde in the presence of dilute base forms Bakelite. The process involved is_____?

A. oxidation
B. elimination
C. condensation polymerization
D. additional polymertization

Ethanol can be converted into ethanoic acid by_____?

A. Hydrogenation
B. Hydration
C. Oxidation
D. Fermentation

Methanol can be obtained from_____?

A. water gas
B. destructive distillation of wood
C. methane
D. all

Absolute alcohol is obtained when rectified spirit is treated with_____?

A. Ca(OH)2
B. CaCO3
C. CaCl2
D. CaO

Phenol was isolated by Runge from_____?

A. vegetable oil
B. coaltar
C. wood
D. none of these

The hydrogenation of phenol in the presence of Ni and heat gives_____?

A. cyclohexane
B. n – hexane
C. 1 – hexanol
D. cyclohexanol

Ethanol and methanol can be distinguished by a_____?

A. Iodoform test
B. Lucas test
C. Benedicts test
D. Tollens test

Which one of the following alcohol has greater boiling point_____?

A. ethanol
B. ethylene glaycol
C. glycerol
D. methanol

Water gas heated at 450?C and 200 atm pressure in the presence of ZnO+Cr2O3 will produce_____?

A. methanol
B. methanol
C. carbonic acid
D. methane

The formula of starch is_____?

A. C12H22O11
B. C6H10O5
C. (C6H10O5)n
D. C6H12O6

The rectified spirit contains_____?

A. 12% alcohol
B. 90% alcohol
C. 95% alcohol
D. 100% alcohol

The oxidation of isopropyl alcohol will yield_____?

A. propane
B. Propanol
C. Propanone
D. Propanoic acid

The distinction test for primary secondary and tertiary alcohol required to react each of them is_____?

A. Cone. HCI and anhydrous SOCl2
B. Cone. HCI and anhydrous CaCl2
C. Cone. HCI and anhydrous PCl2
D. Cone. HCI and anhydrous ZnCl2

The given dissociation constant (Ka) value 1.3×10-10 is of_____?

A. Alcohol
B. Acetic acid
C. Water
D. Phenol

When phenol is heated with concentrated nitric acid the product is_____?

A. Picric acid
B. o-nitrophenol
C. 1 3 5 -trinitro benzene
D. p-nitrophenol

Which compound shows hydrogen bonding ?

A. C2H6
B. C2H5Cl
C. CH3OCH3
D. C2H5OH

Methyl alcohol is not used_____?

A. As a solvent
B. As an antifreezing agent
C. As a substitute for petrol
D. For denaturing of ethyl alcohol

An alcohol which can be prepared by fermentation is_____?

A. CH3OH
B. C3H7OH
C. CH3 – CH2 – OH
D. C6H5OH

When alcohol reacts with phosphorous halides it geive_____?

A. alkyl halides
B. alkyl amine
C. alkanes
D. alkynes

Which one of the following compound does not have – OH group_____?

A. ethylene glycol
B. glycerol
C. picric acid
D. ethyl acetate

Ethers show functional group isomerism with _____?

A. aldehydes
B. ketones
C. alcohols
D. carboxylic acid

Which one of the following is also known as lactic acid ?

A. 3-Hydroxy propanoic acid
B. 2-Hydroxy propanoic acid
C. 2-hydroxy butanoic acid
D. 3-hydroxy butanoic acid

The easy way of balancing the chemical equation is_____?

A. according to atom's atomic number.
B. According to atom's atomic mass.
C. First we balance Metal than non-metal than Hydrogen than Oxygen.
D. None of the above

Which of the following noble gases is not present in atmosphere?

A. Argon
B. Helium
C. Radon
D. Xenon

Which of the following noble gases is abundant in air?

A. Neon
B. Helium
C. Argon
D. Methane

Which law states that "equal volumes of all gases, at the same temperature and pressure, have the same number of molecules?

A. Boyle's law
B. Charles' law
C. Gay-Lussac's law
D. Avogadro's law

Which law states that the volume of a given amount of gas held at constant pressure is directly proportional to the Kelvin temperature?

A. Charles' Law
B. Avogadro's Law
C. Graham's Law
D. Boyle's law

Which law states that the rate of the effusion of a gas is inversely proportional to the square root of its density?

A. Graham's Law
B. Gay-Lussac's law
C. Boyle's law
D. None of these

The valency of carbon Atom is _____ ?

A. 1
B. 2
C. 3
D. 4

Read More Details about this Mcq

What is the Chemical formula of Zinc Hydroxide _____ ?

A. Zn(OH)2
B. ZNO2
C. Zn2(OH)3
D. ZnOH

Permanent hardness of water due to sulphate of metals can be destroyed by the use of _____ ?

A. Zeolites
B. Sulphonides
C. Lime
D. Nitrates

Which among the following is not a property of Ionic bond _____?

A. Sharing of electrons
B. Transfer of electrons
C. Losing of electrons
D. Gain of electrons

Sum of protons and neutrons in an atom gives off _____ ?

A. Nucleon numbera
B. Mass number
C. Atomic number
D. Both A and B

What is the molecular weight of Ammonia (NH3) _____ ?

A. 17.031 g/mol
B. 18.031 g/mol
C. 19.031 g/mol
D. 27.033 g/mol

The absolute value of charge on electron was determined by _____ ?

A. J.J.Thomson
B. Chadwick
C. Rutherford
D. Robert Millikan

The discovery of neutron became very late because _____ ?

A. It does not carry any charge
B. It does not move
C. It is a fundamental particle
D. It is present in nucleus

What is the molecular formula for Nitric acid _____ ?

A. HNO2
B. HNO3
C. HN2O2
D. H2NO4

What is the molecular Weight of Nitric acid (HNO3) ?

A. 63.012 g/mol
B. 65.012 g/mol
C. 70.012 g/mol
D. 81.011 g/mol

The Branch of chemistry dealing with brewing and distilling is called _____ ?

A. Zygology
B. Zymology
C. Zymurgy
D. Zootaxy

The science of fermentation is called _____ ?

A. Zygology
B. Zymology
C. Zymurgy
D. Zootaxy

The reciprocal of the coefficent of viscosity is called_____?

A. Density
B. Specific gravity
C. Fluidity
D. Absorbance

For a given mass of a gas at constant temperature, if the value V becomes 3 times, the pressure will becomes_____?

A. 3P
B. P/3
C. 3P/T
D. 6P

A theoretical link between quantum mechanics and thermodynamics is_____?

A. Electrchemistry
B. Matrix mechanics
C. Statistical thermodynamics
D. Soectroscopic analysis

Stainless steel contains_____?

A. Fe+Cr+Ni
B. Fe+Ni+Cu
C. Fe+ Cr+Cu
D. Cu+C+Ni

Carbon in wrought iron is present as_____?

A. Silicon carbide
B. Iron carbide
C. Graphite
D. Partly as iron carbide and partly as graphite

If steel is heated to a temperature well below red heat and is then cooled slowly, the process is called_____?

A. Annealing
B. Quenching
C. Tempering
D. Nitriding

The substance used in cancer therapy is_____?

A. Fe
B. Co
C. Ni
D. Rn

Transition elements, in general, exhibit the following properties, except one. Name that property?

A. Variable oxidation state
B. Natural Radioactivity
C. Tendency to form complexes
D. Formation of alloys

Which of the following alloys contain(s) Cu and Zn?

A. Bronze
B. Brass
C. Gun-metal
D. Type metal

Which of the following is soluble in water?

A. AgF
B. AgCl
C. AgBr
D. AgI

The maximum oxidation shown by manages is_____?

A. +2
B. +4
C. +5
D. +7

Colour in transition metal compounds is attributed to_____?

A. Small sized metal ions
B. Absorption of light in UV region
C. Complete ns sub-shell
D. Incomplete (n-1) d sub-shell

Which of the following statements is false about transition metals?

A. They form complexes
B. They show variable valency
C. All transition metal compounds are paramagnetic
D. They form coloured ions

The by-product of the process of Saponification is_____?

A. Methanol
B. Glycol
C. Glycerol
D. Sodium hydroxide

Polyethylene Glycols are used in the preparation of which type of detergents?

A. Cationic detergents
B. Anionic detergents
C. Non-ionic detergents soap
D. All of above

_____ surfactants perform well over a wide range water hardness and PH?

A. Anionic
B. Cationic
C. Nonionic
D. Neutral

Commercial detergents contain mainly _____?

A. RCOON
B. RONa
C. RSNa

D. ROsO3Na
Muhammad Ali Kunbhar

Which one of the following is caustic potash?

A. NaOH
B. KOH
C. NaCl
D. NaBH4

The carbon-carbon bond strength is maximum in_____?

A. CH3CH3
B. CH2=CH2
C. Benzene
D. Cyclohexane

Which of the following effects best explains that o-nitrophenol is insoluble in water?

A. Inductive effect
B. Resonance effect
C. Intermolecular H-bonding
D. Isomeric effect

Which one of the following is most acidic?

A. Phenol
B. P-nitrophenol
C. O-nitrophenol
D. M-nitrophenol

Chlorine Cl when attached to benzene has_____?

A. +I and +R effect
B. -1 and +R effect
C. +1 and -R effect
D. -I and -R effect

The criteria for aromaticity is presence of_____?

A. Unsaturations
B. Cyclic structure
C. Presence of 4nπ electrons
D. Presence of 4n+2π electrons

The bond angle between hybrid orbitals in methane CH3 is_____?

A. 115.5°
B. 109.5°
C. 105. 7°
D. 180°

The bond length of C=C is_____?

A. 1.20A°
B. 1.34A°
C. 1.54A°
D. 1.68A°

The stationary and mobile phases in paper chromatography are_____?

A. Liquid/liquid
B. Solid/liquid
C. Liquid/solid
D. Liquid/gas

Beillstein test is used for_____?

A. Cl
B. N2
C. CO2
D. CO

Presence of nitrogen in organic compounds is tested as_____?

A. Nitrogen gas
B. NH3
C. CN^-
D. NO

The molar mass of an organic acids is determined by_____?

A. Depression of freezing point
B. Volumetric method
C. Victor Meyer's method
D. Osmosis method

The IUPAC suffix used for _____ NC group?

A. Cyanide
B. Isocyanides
C. Nitrile
D. Carbylamines

The IUPAC name of ethylene oxide is_____?

A. Epoxy methane
B. Oxoethene
C. Methoxymethane
D. Oxirane

The IUPAC name of HCONH2 is_____?

A. **Methanamide**
B. Methanoylamine
C. Aminoethanol
D. Formanide

The compound (CH3)3COH according to IUPAC is known as _____?

A. Tert-Butanol
B. 2,2-Dimethyl-propanol
C. Tert Alcohol
D. 1,1- Diethylethanol

The PH of the 0.0032 M H2SO4 is_____?

A. 3.2
B. 4.0
C. 2.198
D. 1.0

The PH of the 1.3 × 10-4 NH4Cl is_____?

A. 1.3
B. 4.0
C. 2.886
D. 3.886

The PH of milk is _____?

A. 6.0
B. 6.5
C. 7.0
D.7.5

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The PH of Tears is _____?

A. 7.0
B. 7.4
C. 7.8
D. 8.2

The PH of pure water at 25°C, kw=1×10-4_____?

A. 0
B. 7
C. 14
D. None of above

When 0.01 moles of NaOH are added to a buffer solution, its PH changes from 4.745 to 4.832. What is its?

A. 0.115
B. 0.900
C. 0.015
D. 0.215

Alpha particles can be detected by using_____?

A. Gold foils
B. Barium sulphate
C. Zinc sulphide screen
D. Thin Aluminium sheet

Which one of the following is the correct sequence according to atomic weights?

A. Fe>Co> Ni
B. Co > Ni > Fe
C. Ni> Co> Fe
D. Co >Fe>Ni

Generally the limit of visible spectrum is_____?

A. 1000 to 300 A°
B. 3800 to 7600 A°
C. 8000 to 10,000 A°
D. 12,000 to 15,000 A°

If R is the Rydberg constant for hydrogen, then wave-number of the second line in the Lyman series is _____?

A. 2 R
B. R/2
C. 3R/4
D. R/4

Magnetic quantum number specifies_____?

A. Size of orbitals
B. Shape of orbitals
C. Orientation of orbitals
D. All of the above

Azimuthal quantum number defines_____?

A. e/m ratio of an electron
B. Spin of an electron

C. Angular momentum of an electron
D. Magnetic momentum of an electron

The energy of one mole of photons of radiation, whose frequency is 4×10 14 Hz, is _____?

A. 159.6kJ
B. 135.5 KJ
C. 110.5 KJ
D. 80.4 KJ

Which of the following gases shows more ideal behaviour at 0°C_____?

A. H2
B. CH4
C. He
D. NH3

In a closed vessel, a gas is heated from 300K to 600 K. The kinetic energy becomes_____?

A. Double
B. Same
C. Half
D. Four times

Pressure remain constant, at which temperature the volume of gas becomes twice of what it is at 0°C?

A. 546 °C
B. 546 K
C. 200°C
D. 273 K

The density of a gas is 1.964 g dm-3 at 273 K and 76 cm Hg. The gas is _____?

A. CH4
B. CO2
C. C2H4
D. Xe

Which of the following haloalkane is hydrolysed by SN1 mechanism?

A. CH3Br
B. CH3CH2Br
C. CH3CH2CH2Br
D. (CH3)3CBr

Hydrocarbon is formed when Grignard reagent is treated with_____?

A. H2O
B. CH3OH
C. Both a and b
D. None of the above

Grignard reagent gives carboxylic acid with_____?

A. CO2
B. CH3CHO
C. COC2
D. HCN

The law of traids is applicable to_____?

A. Li, Be, B
B. F, Cl, Br
C. Cl, Br, I
D. Na, K, Rb

The concept of telluric helix was developed by_____?

A. Lother Meyer
B. A.E de Chancourtois
C. Newland
D. Dobereiner

Which group contains elements that exist as monoatomic molecule?

A. 1
B. 2
C. 14
D. 18

The element having electronic configuration [kr] 4d10, 4f14,5s2,5p6,5d1,6s2 belongs to _____?

A. S-Block
B. P-Block
C. d-Block
D. f-Block

Which one of the following is a bridge element?

A. Be
B. Cl
C. K
D. P

The common oxidation state of lanthanides is_____?

A. +3
B. +2
C. +1
D. +4

Which of the following is most soluble on water?

A. BaSO4
B. SrSO4
C. CaSO4
D. MgSO4

Which of the following orbitals has maximum penetration effect?

A. S
B. P
C. d
D. f

The heat energy produced when the human body metabolises 1 gram of fat is_____?

A. 30 KJ
B. 1 KJ
C. 39 KJ
D. 29 KJ

Which of the following phenomenon is considered responsible for Global Warming?

A. Greenhouse effect
B. Fire in coal mines
C. Dry farming
D. Monsoon

The number of d-electrons in Fe2+ (Z = 26) is not equal to that of_____?

A. p-electrons in Ne(Z = 10)
B. s-electrons in Mg(Z = 12)
C. d-electrons in Fe(Z = 26)
D. p-electrons in CI(Z = 17)

The metallurgical process in which a metal is obtained in a fused state is called_____?

A. smelting
B. roasting
C. calcinations
D. froth floatation

The molecules of which gas have highest speed?

A. H_2 at -73°C
B. CH_4 at 300 K
C. N_2 at 1,027°C
D. O_2 at 0°C

The law which states that the amount of gas dissolved in a liquid is proportional to its partial pressure is_____?

A. Dalton's law
B. Gay Lussac's law
C. Henry's law
D. Raoult's law

The Latin word formica means ant. The name formic acid is derived from this Latin word because_____?

A. this acid, in ancient times, was used to eliminate ant-hills
B. this corrosive acid is secreted by ants to drive away their enemies
C. this acid was first obtained by the distillation of ants
D. ants are attracted by the odour of this acid

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When an aldehyde is reacted with hydrogen cyanide a " Cyanihydrin" is formed. This process is best termed as _____?

A. Electrophilic addition
B. Electrophilic substitution
C. Nucleophilic addition
D. Necleophilic substitution

Which of the following solvents would best facilitate an SN2 substitution reaction?

A. Water
B. Hexane
C. Dimethylflormamide
D. Ethanol

In a molecule of carbon monoxide, what are the formal charges on the two atoms?

A. Carbon=0, Oxygen=0
B. Carbon= +1, Oxygen= -1
C. Carbon= -1, Oxygen= +1
D. Carbon=0, Oxygen= -1

Which of the following aqueous solutions would have the highest boiling point?

A. 0.20 m glucose
B. 0.20 m NaCl
C. 0.15 m CaCl2
D. 0.25 m sucrose

The mass of 3.2 moles of ammonia (NH3) gas?

A. 53.4 grams
B. 54.4 grams
C. 55.4 grams
D. 56.4 grams

How many moles are in 22.2 grams of Calcium chloride, CaCl2?

A. 0.2 moles
B. 0.3 moles
C. 0.4 moles
D. 0.5 moles

What is the mass percent of silver in silver notrate, AgNO3?

A. 64.5%
B. 65.6%
C. 63.5%
D. 61.5%

A sample of an iron and oxygen ore has a mass of 35.8 grams. The iron in the compound has a mass of 27.9 grams. What is the percent iron in the ore?

A. 74% Fe
B. 75% Fe
C. 77% Fe
D. 78% Fe

A compound is determined to have an emperical formula of C2H6O and a molar mass of 138 g/mole. What is the molecular formula?

A. C2H6O
B. C6H18O3
C. C6H12O6
D. C2H5O

A substance is analyzed and found to have an emperical formula of CH2 and a molar mass of 56g/mole. What is the molecular formula of the compound?

A. C2H4
B. C3H6
C. C4H8
D. C5H10

The number of atoms present in 21.6 gram of silver (atomic weight = 108) are same as the molecules in_____?

A. 1.8 gram of H_2O
B. 12 moles of $KMnO_4$
C. 0.6N H_2SO_4
D. 4.6 gram of C_2H_5OH

The molecular formula for cholesterol is C27 H46 O. What are the degrees of unsaturation for this compound?

A. 5
B. 6
C. 7
D. 8

The most appropriate method for separating a large quantity of a mixture of nonvolatile, nonpolar organic compounds would be_____?

A. Distillation
B. Extraction
C. Gas chromatography
D. Column chromatography

The relatively high energy of the gauche conformation of butane is primarily associated with_____?

A. Angle strain
B. Torsional strain
C. Steric strain
D. Orbital strain

What is the density ofargon gas at a temperature of 30°C and a pressure of 1.05 atm?

A. 1.65 g/L
B. 1.67 g/L
C. 1.68 g/L
D. None of the above

The formula C6H5-CO-CH3 represents_____ ?

A. Acetone
B. Acetic acid
C. Acetophenone
D. Phenyl acetate

Poisonous gas present in the exhaust fumes of a jet plane is_____?

A. Flurocarbon
B. Carbon monoxide
C. Methane
D. C2H2

The O-O linkage is present in_____?

A. H2S2O3
B.H2SO8
C. H2S4O6
D. H2 S2 O6

The number of lone pairs in XeOF4 is_____?

A. O
B. 1
C. 2
D. 3

Argon gas was discovered by_____?

A. Rayleigh
B. Ramsay
C. Lockerey
D. Dalton

SO2 reacts with Cl in sunlight to form_____?

A. Sulphur dioxide
B. Sulphuryl chloride
C. Suphanyl chloride
D. All of the above

Oxidation state +1 for phosphorous is found in_____?

A. H3PO3
B. H3PO4
C. H3PO2
D. H2P2O7

Electric bulb filament is made of_____?

A. Copper
B. Aluminum
C. Lead
D. Tungsten

Tetraethyl lead is used as_____?

A. Pain Killer
B. Fire Extinguisher
C. Mosquito Repellent
D. Petrol Additive

The average salinity of sea water is_____?

A. 3%
B. 3.5%
C. 2.5%
D. 2%

The chemical (Ethyl Mercaptan) added to the otherwise odourless LPG cooking gas for

imparting a detectable smell to the gas is a compound of:_____?

A. Bromine
B. Fluorine
C. Chlorine
D. Sulphur

Marsh gas is_____?

A. Nitrogen
B. Ethane
C. Methane
D. Hydrogen

Potassium Permanganate is used for purifying drinking water, because_____?

A. It is a sterilising agent.
B. It dissolves the impurities of water.
C. It is a reducing agent.
D. It is an oxidising agent.

Find the PH of a 0.001 M solution of Nitric acid HNO3?

A. 2
B. 3
C. 4
D. 5

Which set of quantum numbers is not allowed?

A. n=2,l=1,m1=0,ms=+1/2
B. n=2,l=1,m1=-1,ms=+1/2
C. n=2,l=0,m1=0,ms=-1/2
D. n=2,l=2,m1=1,ms=-1/2

The purpose of Smelting an ore is to_____?

A. Reduce it
B. Oxidize it
C. Obtain an alloy
D. Separate volatile impurities

Which Oxide of Manganese is amphoteric?

A. MnO2
B. Mn2O3
C. Mn2O7
D. MnO

A process used for the Concentration of Ore is_____?

A. Roasting
B. Forth flotation
C. Electrolysis
D. Distillation

Which metal is used as a reducing agent in Smelting_____?

A. C
B. Zn
C. Al
D. Cu

Parke's process is used in the extraction of_____?

A. Iron
B. Sodium
C. Silver
D. Zinc

In melting of iron, which of the following reactions takes place in Bladt Furnace at 400°C- 600°C_____?

A. CaO+ SiO2——> CaSiO3
B. 2FeS+3O2———> 2Fe+ SO2
C. FeSiO3———> FeSiO3
D. Fe2O3+ 3CO———> 2Fe+ 3CO2

Gypsum is_____?

A. CaSO4
B. CaSO4.1/2H2O
C. CaSO4,2H2O
D. CaSO4.3H2O

Basicity of orthophosphoric acid is_____?

A. 2
B. 3
C. 4
D. 5

Ce58 is a member of_____?

A. S-block
B. P-block
C. d-block
D. f-block

Electronic Configuration of Calcium (Ca) atom may be written as_____?

A. Ne, 4p2
B. Ar, 4s2
C. Ne, 4s2
D. Kr,4p2

A 10 volume solution of H2O2 means_____?

A. 10 grams of H2O2 solution liberate 10 mL of O2 at STO
B. 10 gram equivalents of H2O2 liberates 10 mL of O2 at STP
C. 10 litres of H2O2 liberates 19 mL of O2 at STP
D. 1mL of solution of H2O2 liberates 10 mL of O2 at STP

The volume strength of 1.5 N H2O2 solution is_____?

A. 4.8
B. 5.2
C. 8.8
D. 8.4

The structure of H2O2 is_____?

A. Planar
B. Non- polar
C. Spherical
D. Linear

Which of the following element has the maximum electron affinity_____?

A. Cl
B. Br
C. I
D. F

The type of hybridisation of boron in diborane is_____?

A. Sp- hybridisation
B. Sp2- hybridisation
C. Sp3- hybridisation
D. Sp3d2- hybridisation

Which of the following shows electrical conduction_____?

A. Potassium
B. Graphite
C. Diamond
D. Sodium

Cassiterite is an ore of_____?

A. Mn
B. Ni
C. Sb
D. Sn

Percentage of lead in lead pencil is_____?

A. Zero
B. 20
C. 80
D. 70

In borax bead test which compound is formed_____?

A. Ortho burate
B. Meta borate
C. Double oxide
D. Tetra borate

Water molecule is_____?

A. V-shaped
B. Angular
C. Pyramidal
D. Triangular planer

I3(Tri-iodine) has shape_____?

A. Trigonal bipyramidal
B. Linear
C. Square bipyramidal
D. Both A and C

BeCl2 has the hybrid orbitaks of type_____?

A. Sp2
B. Sp3
C. Sp
D. dsp2

Molecular orbital Theory is also called_____?

A. Bonding theory
B. Band theory
C. Antibondingtheory
D.π and σ bonding theory

Formula of Galena is_____?

A. PbS
B. HgS

C. AS2S3
D. FeS2

ca by a group of_____?

A. Ch3
B. OH
C. OCH3
D. O2

Boron is non metal while other elements of IIIA group are metals. This is because_____?

A. it has small size
B. it has high nuclear charge
C. it forms molecular addition compounds
D. all of the above

The coloured glassy mass in borax bead test is due to the formation of_____?

A. metal borate
B. metal meta borate
C. metal boride
D. metal silicate

If temperature of gallium arsenide is increased then its conductivity will_____?

A. decrease
B. increase
C. remains constant
D. first decreases then increases

Which of the following will decompose to produce litharge_____?

A. Pb2O
B. Pb3O4
C. PbO2
D. All of the above

Which of the following is metasilicic acid ?

A. H2SnO3
B. H2SiO3
C. H3AsO4
D. H3SbO4

Boron in soil has been considered micronutrient for_____?

A. Soil porocity
B. Proper growth of plants
C. Alkalinity of soil
D. All

Substance which is found in dried up lakes of Tibet and California is_____?

A. Tincal
B. Boric acid
C. Calcium carbonate
D. Colemanite

Which of the following does not give Borax bead test ?

A. Cu
B. Cr
C. Ni
D. A1

The metal which is used in thermite process because of its activity is_____?

A. iron
B. copper
C. aluminium
D. zinc

Ethylene diammine is ligand_____?

A. mono dentate
B. Bi dentate
C. tri dentate
D. Poly dentate

If volumetric analysis methyl orange indicator is used when_____?

A. Acid is strong
B. Acid is weak
C. Bade is strong
D. Acid is strong base is weak

For the reaction 2HI _____> H2+ I2

A. Kp > kc
B. Kc > kp
C. Kp= kc
D. Kp ≤ kc

The reaction of Lucas reagent is the fastest with_____?

A. (CH3)2CHOH
B. CH3(CH2)OH
C. CH3CH2OH
D. (CH3)3COH

If a compound contains 24 gram of carbon 2 gram of hydrogen and 64 gram of oxygen then its empirical formula will be_____?

A. C2H2O4
B. CH2
C. CH2O
D. CHO2

Noble gases are so called zero group because they have:_____?

A. Zero Valency
B. Zero Electronegativity
C. Zero Electron Affinity
D. Both A and B
E. All of these

What is chemical symbol for Tungsten?

A. Z
B. T
C. Tn
D. W

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The composition of ' Golden spangles is_____?

A. PbCrO4
B. PbI2
C. As2Cr2O7
D. BaCrO4

When SO2 solution is passed over which of the following it turns green?

A. K2Cr2O7
B. H2SO4
C. SO3
D. P2O5

A brivalent metal has the equivalent weighr of 12. The molecular weight to its oxide will be_____?

A. 24
B. 32
C. 36
D. 40

The weight of a metal of equivalent of 12 which will give 0.475g of its chloride is_____?

A. 0.12g
B. 0.16g
C. 0.18g
D. 0.24g

The amount of Zinc (at. Wt=65) necessary to produce 224 ml of H2 by the reaction with an acid will be_____?

A. 0.065gm
B. 0.65gm
C. 6.5gm
D. 7.5gm

Which of the following compounds is not soluble in HNO3___?

A. CuS
B. CdS
C. PbS
D. AgCl