



# CALCULUS EDUCATIONAL CONSULTS

MOTTO: BRINGING KNOWLEDGE TO YOUR DOORSTEP

TEL: 07037507487, 09094642770, 07033733671

MAINLAND LECTURE CENTRE

## CHM205:INTRODUCTORY INORGANIC CHEMISTRY II

These are the two naturally occurring allotropic forms of carbon which are \_\_\_\_\_  
**diamond and graphite**

Silicon is the second most abundant element in the earth's crust forming about **27.7%**.

Silicates are present in the \_\_\_\_\_  
**rocks**

Common sand is an impure form of \_\_\_\_\_  
**silica**

when elements appears in more than one form, they are referred to as \_\_\_\_\_  
**allotropes**

Tin shows polymorphism and exists in two crystalline forms: **grey or  $\alpha$ tin**, which is a semimetallic form, stable below **286 K**, and **white or  $\beta$ tin**, the stable metallic form

Grey tin has a **diamond structure** whereas the white tin has a **tetragonal structure** diamond can also be formed when carbon is subjected to high **temperature and pressure** **Moissan (1896)** got artificial diamonds by quick quenching of a solution of carbon in iron

Three other forms of carbon are manufactured on a large scale because of their vast industrial uses. These are **coke, charcoal and carbon black or lampblack**

**Destructive distillation** is heating a substance to high temperatures in the absence of air and distilling off the volatile substances so formed

Commercial form of silicon is obtained by reduction of \_\_\_\_\_ in an electric furnace  
**SiO<sub>2</sub> with C or CaC<sub>2</sub>**

**Diamonds** are used in jewellery on account of their high refractive and dispersive power. the uses of graphites are \_\_\_\_\_

**Graphite electrodes are used in the extraction of aluminium.**

**Graphite is also used for making crucibles, as a lubricant in heavy machines and as pencil lead Carbon black**

is used to strengthen rubber, as a pigment in inks, paints, paper and plastics

Diamond is not a conductor of electricity because\_\_\_\_\_

**it is very hard in nature.**

**it has a tetrahedral arrangement of atoms. it**

**does not have a layer structure.**

**it does not have delocalised electrons.**

A large increase in the size of silicon is due to the \_\_\_\_\_

**introduction of the 3rd shell**

The decrease in the 1st and 2nd ionisation energies from C to Sn is because of the\_\_\_\_\_

**increase in atomic size down the group**

A\_\_\_\_\_ bond is formed by the lateral overlap of two dumb-bell shaped orbitals, e.g.  $p\pi$ -bond

**$\pi$**

A lateral overlap of p and d orbitals under favourable conditions can also lead to the formation of a  $\pi$  bond. Such a  $\pi$  bond formation is called  **$p\pi$ - $d\pi$  bond**

**Catenation** is a property by virtue of which elements form long chain compounds by single or multiple bond formation between atoms of the same element

In general, the chemical reactivity of Group 4 elements\_\_\_\_\_down the group

**increases**

When carbon is linked to elements of lower or approximately the same electronegativity, the binary compounds so formed are termed as **carbides**

examples of carbides are\_\_\_\_\_

**CaC<sub>2</sub>, Al<sub>4</sub>C<sub>3</sub>, Be<sub>2</sub>C**

**Ionic** carbides are formed by elements of Groups 1,2,3, 11, 12 and 13

\_\_\_\_\_are formed by combination of carbon with some transition metals like Ti, W, V, etc

**Interstitial Carbides**

Interstitial Carbides are also known as **non-stoichiometric compounds**

Lattices of metals with atomic radius less than 130 pm get distorted, e.g., iron, cobalt and nickel do not form typical **interstitial carbides**.

\_\_\_\_\_are formed by combination of carbon with elements of almost equal electronegativity like boron and silicon.

**Covalent Carbides**

the four tetrahalides are known as\_\_\_\_\_

**fluorides, chlorides, bromides and iodides**

The **tetrahalides** are volatile covalent compounds with tetrahedral structure

**Fluorocarbons** are the synthetic equivalents of hydrocarbons in which some or all of the hydrogens have been replaced by fluorine atoms, e.g. CF<sub>4</sub>, C<sub>2</sub>F<sub>4</sub>, C<sub>2</sub>F<sub>6</sub>

The bond energy of C-F bond is **489 kJ mol<sup>-1</sup>**

The bond energy of C-H bond is **414 kJ mol<sup>-1</sup>**

\_\_\_\_\_ is the simplest fluorocarbon.

**CF<sub>4</sub>**

\_\_\_\_\_ is a colourless gas obtained by the reaction of carbon tetrachloride with silver fluoride at 575 K.

**CF<sub>4</sub>**

Tetrafluoroethene, C<sub>2</sub>F<sub>4</sub> can be polymerised thermally or in aqueous emulsions to a chemically inert plastic, polytetrafluoroethene (PTFE), commercially known as **Teflon**.

\_\_\_\_\_ is used as a protective coating in non-stick kitchen utensils, razor blades, bearings, etc.

**Teflon**

Mixed chlorofluorocarbons such as CCl<sub>2</sub>F<sub>2</sub>, CFC1<sub>3</sub> and CF<sub>3</sub>Cl are known as **Freons**

The dioxides are all thermally stable except for **PbO<sub>2</sub>**, the reason being an increase in stability of +2 oxidation state down the group

Acidic character of the dioxides decreases down the group; **CO<sub>2</sub> and SiO<sub>2</sub>** are acidic oxides GeO<sub>2</sub>, SnO<sub>2</sub> and PbO<sub>2</sub> are known as **amphoteric oxides**

The product, a mixture of CO and H<sub>2</sub>, is called **water gas**

**Haemoglobin** is the oxygen carrying protein in blood.

Solid CO<sub>2</sub> is known as **dry ice**

**Solid carbon dioxide** is also used as a freezing mixture in organic solvents like acetone or methanol. the

Anomalous Behaviour of Carbon are \_\_\_\_\_

-Carbon has a maximum covalency of 4 and can not form complex compounds.

-Carbon is the only element in the group that can form stable derivatives with double and triple bonds, which show special characteristics.

-Carbon forms gaseous oxides, i.e., CO and CO<sub>2</sub> whereas others form solid oxides.

-Carbon has a much higher electronegativity and higher ionisation energy than other elements in the group.

-Carbon has a unique capacity of catenation and forms a very large number of stable compounds, with long chains or rings of carbon atoms, which can occur in many isomeric forms.

-Carbon forms stronger bonds not only with itself but also with elements like halogens, oxygen, nitrogen and sulphur than any other element in the group.

Silicon dioxide, SiO<sub>2</sub>, is commonly known as **silica Flint**

\_\_\_\_\_ is the amorphous form of silica.

**silica Flint**

**Quartz** is the purest and the most stable form of silica

Quartz is also called \_\_\_\_\_  
**rock crystal**

the silicic acid is obtained from \_\_\_\_\_  
**hydrolysis of silicon tetrachloride**

Quartz gets coloured due to the presence of some impurities and is prized as a **gemstone**, e.g., amethyst which is purple

Silica when fused with sodium carbonate gives sodium silicate also known as **water glass Silicates**

are regarded as the salts of silicic acid,  $\text{H}_4\text{SiO}_4$ .

\_\_\_\_\_ are layered structured silicates and they have toughness, elasticity, transparency, high dielectric strength, chemical inertness and thermal stability up to 775 K  
**Mica**

**Asbestos** is used as a thermal insulator for lagging steam pipes, for making fire proof textiles and as an insulator.

**Clays** are essential components of soils, formed by weathering and decomposition of igneous rocks.

**Zeolites** which is also called **Permutits**, are sodium aluminosilicates used in softening of water

**Zeolites** are also aluminosilicates with open pore structure and contain equal number of anions and cations

The method of melting glass was discovered about **5,000 B.C.** in **Egypt** or **Mesopotamia** probably by some potters when they were firing their pots

When a mixture of silicates mainly of sodium and calcium is melted and then supercooled, i.e. cooled immediately to a low temperature, a transparent solid is obtained which is called **glass**.

Silicones are a group of **organosilicon** polymers.

silicon compound is used as a \_\_\_\_\_  
**dehydrating agent**  
**cation exchanger**  
**lubricant**  
**thermal insulator**

**fullerenes** are the new form of element carbon in which carbon atoms are 'symmetrically arranged in closed shells.

\_\_\_\_\_ are formed when vapourised carbon condenses in an atmosphere of inert gas and produces clusters with 60 carbon atoms and clusters with 70.

**fullerenes**

the most abundant uncombined element accessible to man that comprises of 78.1 % in air is called \_\_\_\_\_  
**nitrogen**

**Phosphorus** is the eleventh element in order of abundance in the crustal rocks of the earth, its occurrence being to the extent of 0.112%

nitrogen is extracted or obtained commercially from \_\_\_\_\_  
**air**

Atomic radii increase with \_\_\_\_\_ in atomic number  
**increase**

**Phosphorescence** is a form of luminescence in which a substance emits light of one wavelength after having absorbed electromagnetic radiation of shorter wavelength

Reactivity of the various allotropic forms of phosphorus towards other substances decreases in the order\_\_\_\_  
**brown > white > red > black**

the strength of N=N bond is \_\_\_\_\_  
**946 kJ mol<sup>-1</sup>**

All elements of Group 5 form \_\_\_\_\_  
**trihydrides**

The central atom in the trihydrides is \_\_\_\_\_ hybridised  
**sp<sup>3</sup>**

Ammonia is manufactured industrially by **Haber process**.

If the conditions controlling the equilibrium of a system are changed, the system moves in such a way as to oppose the effects of the change. this principle is called \_\_\_\_\_  
**Le Chateller's Principle**

**Hydrazine** is prepared by the action of sodium hypochlorite on ammonia in the presence of a small amount of gelatin, which helps to suppress the side reactions

Hydrazoic acid is also known as **hydrogen azide**

Pb(N<sub>3</sub>)<sub>2</sub> is covalent and explosive in nature and it is used as a **detonator**.

\_\_\_\_ is the most stable hydride of phosphorus.  
**Phosphine, PH<sub>3</sub>**

Phosphine can be easily prepared by any of the following methods which are \_\_\_\_\_  
**hydrolysis of metal phosphides**  
**Pyrolysis of phosphorus acid**  
**Alkaline hydrolysis of phosphonium iodide**

**Phosphine** is a colourless, extremely poisonous gas having a faint garlic odour

**AsH<sub>3</sub>, SbH<sub>3</sub> and BiH<sub>3</sub>** are exceedingly poisonous, thermally unstable, colourless gases whose physical properties are compared with those of NH<sub>3</sub> and PH<sub>3</sub>

**AsH<sub>3</sub> and SbH<sub>3</sub>** can be prepared by acid hydrolysis of arsenides and antimonides of electropositive elements like Na, Mg, Zn

Bismuthine is extremely unstable and is best prepared by the disproportionation of methylbismuthine at **230 K**

Pentahalides are obtained by \_\_\_\_\_

**the action of excess of halogen on trihalides**

An **oxoacid** is the acid in which ionisable hydrogen atoms are attached to the central atom through oxygen atoms

The nitrate ion is **planar** with equal N-O bonds. Phosphorus

forms two series of oxoacids which are \_\_\_\_\_

**the phosphoric and the phosphorous acids.**

The oxidation state of phosphorus is \_\_\_\_\_

**+5**

Na<sub>6</sub>P<sub>6</sub>O<sub>18</sub>·6H<sub>2</sub>O is known as \_\_\_\_\_

**calgon**

\_\_\_\_\_ is the continuous exchange of nitrogen between the atmosphere and the biosphere.

**Nitrogen cycle**

The ammonium salts and nitrates are taken up from the soil by plants which convert them into \_\_\_\_\_  
**proteins and nucleic acids**

The only practicable method of preparing fluorine gas is **Moissan's original procedure** based on the electrolysis of KF dissolved in anhydrous HF.

All attempts at isolation of fluorine failed due to the following reasons \_\_\_\_\_

**-High chemical reactivity of fluorine towards other elements**

**-It attacked the apparatus whether made of glass, carbon, platinum or any other metal in which its preparation was tried.**

**-In view of fluorine being the most powerful oxidant, no oxidising agent could be available which could bring about the oxidation of HF to F<sub>2</sub>.**

**-The method of electrolysis was not fruitful. Aqueous HF on electrolysis yielded hydrogen and oxygen Exceedingly poisonous and corrosive character of anhydrous HF proved fatal to early chemists.**

\_\_\_\_\_ law state that The amount of heat evolved in a chemical process is always the same irrespective of whether the process goes as a one or many step reaction

**hess's**

Halogens react with hydrogen to form hydrides which are called \_\_\_\_\_  
**hydrogen halides**

A **constant boiling point mixture** is a mixture of two or more with a definite composition, which boils at a specific temperature at a specific pressure.

the Preparation of Halogen Oxides are \_\_\_\_\_

**-Oxygen difluoride is prepared by passing fluorine into a 2% NaOH solution**

**-Cl<sub>2</sub>O and Br<sub>2</sub>O are prepared by heating freshly precipitated mercuric oxide with the halogen**

The reaction  $C_6H_6 + HNO_3$  will give \_\_\_\_\_.

**C<sub>6</sub>H<sub>5</sub>NO<sub>2</sub> + H<sub>2</sub>O**

Dilute nitric acid will oxidise HI to \_\_\_\_\_.

**I**

Dilute nitric acid will oxidise H<sub>2</sub>S to \_\_\_\_\_.

**S**

Concentrated nitric acid readily oxidises solid non metals and metalloids to their respective

\_\_\_\_\_.

**Oxoacids or hydrated oxides**

Concentrated nitric acid behaves as \_\_\_\_\_.

**An oxidising agent**

Oxoacids in which the central atom is in a higher oxidation states are termed as \_\_\_\_\_.

**ic-acid**

To distinguish between the oxidation states of the central atom in oxoacids, suffixes in which the central atom is in a lower oxidation state are termed \_\_\_\_\_.

**ous acid**

The bond energy of N-N bond in hydrazine is very small due to \_\_\_\_\_.

**Repulsion of the nonbonding electrons which weaken the N-N bond**

Mineral silicates play an important role in national economy because from it is produced \_\_\_\_\_.

**Glass, ceramics, cement**

Which of the following statement is true ?

**Stability of covalent hydrides of Group 4 elements decreases down the group because of decreasing M-H bond energies**

Boron and silicon combine with carbon to form \_\_\_\_\_.

**Covalent carbides**

\_\_\_\_\_ are formed by elements of 1, 2, 3, 11, 12 and 13 except boron.

**Ionic carbides**

The element with the highest electron affinity amongst the halogens is \_\_\_\_\_.

**Chlorine**

The tendency of gaining an electron to acquire a stable noble gas configuration makes the halogens \_\_\_\_\_.

**High electron affinity**

The reactivity of the various allotropes of phosphorus towards other substances decreases in the order?

**brown-white-red-black**

Which of the options below indicates how carbon behaves differently from other members of Group 4? **Carbon has a much higher electronegativity and higher ionisation energy than other elements in the group**

Tin exhibit polymorphism because of \_\_\_\_\_.

**It exists in two crystalline forms**

\_\_\_\_\_ occurs in the elemental state as diamond and graphite.

**Carbon**

Tin is obtained by the \_\_\_\_\_.

**Reduction of oxides of tin with carbon**

Ammonifying bacteria present in the soil decompose plants and animals when they die into \_\_\_\_\_.

**Nitrogen and ammonium compounds**

Other halogens apart from fluorine exhibit variable oxidation states due to \_\_\_\_\_.

**Other halogens have vacant d orbital whereas fluorine doesn't**

The most stable hydride of phosphorous is \_\_\_\_\_.

**Phosphine**

In the gaseous state phosphorus exist as \_\_\_\_\_,

**P<sub>4</sub>**

All the elements of Group 5 can expand their octet except \_\_\_\_\_.

**Nitrogen**

The difference between silica and silicate is \_\_\_\_\_.

**Silica is made of SiO<sub>2</sub> units whereas silicate is made of SiO<sub>4</sub> units**



The chief constituent of glass is\_\_\_\_\_.

**Silica**

Sandstone, granite and slate are examples of\_\_\_\_\_.

**Natural silicates**

The purest and most stable form of silica is\_\_\_\_\_

**Quartz**

The principal constituents of all rocks, clays and soils are\_\_\_\_\_.

**Silicates**

Which of the options below shows how carbon behaves differently from the rest of the elements in its group?

**Carbon is the only element in the group that can form stable derivatives with double and triple bonds**

Superphosphate of lime is a more effective fertilizer than phosphate rock because of\_\_\_\_\_.

**Ca(H<sub>2</sub>PO<sub>4</sub>)<sub>2</sub> is water soluble**

Lightning discharge in the atmosphere converts nitrogen to\_\_\_\_\_.

**Nitric oxide**

Hydrazine can act as a coordinating ligand forming complexes with metal ions because of\_\_\_\_\_.

**It has lone pairs of electrons**

The tetrahedron of the trihydrides of Group 5 elements is distorted due to repulsion between the lone pair of electrons and the bonded pairs giving these hydrides\_\_\_\_\_structure.

**Pyramidal**

The compound among the options below with the least bond energy is\_\_\_\_\_.

**BiH<sub>3</sub>**

Silica gel is\_\_\_\_\_ form of Silicon dioxide.

**Amorphous**

Carbon dioxide is used in fire extinguishers because of\_\_\_\_\_.

**It does not support combustion**

\_\_\_\_\_are formed by combination of carbon with some transition metals.

**Interstitial carbides**

Which one of the following compounds is formed when carbides are decomposed by water or dilute acids?

**Acetylene**

The tendency of \_\_\_\_\_ to form multiple bonds easily is due to its high bond energy and small atomic radius.

**Carbon**

Group 5 elements form compounds mainly in two oxidation states, namely \_\_\_\_\_.

**+3 and +5**

\_\_\_\_\_ are formed by combination of carbon with some transition metals.

**Interstitial carbides**

Diamond behaves as an insulator because of \_\_\_\_\_.

**Strong covalent bonds formed within its molecule restricting mobility of electrons**

Hydrazine has how many lone pairs of electrons?

**Two**

Ammonia functions as an electron donor because of \_\_\_\_\_.

**Lone pair of electron on the nitrogen atom available for donation**

\_\_\_\_\_ is the main types of halides formed by Group 5 elements.

**Trihalides**

The forms of carbon include \_\_\_\_\_.

**Coke, charcoal and carbon black**

Diamond are used in jewellery on account of their \_\_\_\_\_.

**High refractive index and dispersive power**

Nitrogen react with metals of low ionisation energy because of \_\_\_\_\_.

**Its small size and high electronegativity**

Nitrogen is quite inert at room temperature because of \_\_\_\_\_.

**Multiple bonds between its atoms**

Coke and charcoal are formed by \_\_\_\_\_.

Destructive distillation of coal and hardwood or bones in the absence of air  
Pyrolysis of coal and hardwood or bones in the absence of air

None of the above

**All of the above**

The softest of the allotropes of carbon is \_\_\_\_\_.

**Graphite**

Which of the following statement is true?

In carbonmonoxide, oxygen forms a coordinate bond with C by donating and sharing its lone pair of electrons

The product obtained when steam is passed over red hot coke is \_\_\_\_\_.  
**CO**

Fluorocarbons are resistant to attack by acids, alkalis, oxidizing and reducing agents because of \_\_\_\_.  
**The greater strenght of the C-F bond and the large size of fluorine**

Al<sub>4</sub>C<sub>3</sub> is an example of \_\_\_\_\_.  
**Carbide**

Which of the following is capable of forming comparatively stable multiple bonds?  
**Carbon**

What is the reason why nitrogen is not able to form coordination number beyond four, whereas other members of its group is able?  
**P, As, Sb and Bi can attain sp<sup>3</sup>d and sp<sup>3</sup>d<sup>2</sup> hybridisation whereas nitrogen cannot**

Which of the following have high small size and high electronegativity?  
**Nitrogen**

\_\_\_\_\_ is used to create inert atmosphere where the presence of air would involve fire explosion, hazards or undesirable oxidation products.  
**Nitrogen**

Among Group 5 elements, increase in atomic number leads to increase in \_\_\_\_\_.  
**Atomic radii**

Nitrogen is obtained commercially from \_\_\_\_\_.  
**Fractional distillation of liquid air**

Which of the following statement is correct?  
**Hydrolysis of silicon tetrachloride gives silicic acid**

Among the Group 4 elements moving from carbon to silicon the covalent radius increases sharply afterwards the increase is gradual, this is attributed to \_\_\_\_\_.  
**As we move down the group after silicon, effective nuclear charge outbalances the effect of additional shell leading to only a marginal increase in size**

The elements of Group 4 show oxidation states of \_\_\_\_\_.  
**+2 and +4**

Group 4 elements form mostly covalent compounds because of \_\_\_\_\_.  
**Very large amount of energy is required to form a M<sup>4+</sup> ion**

Diamond is not a conductor of electricity because of \_\_\_\_\_.

**It does not have delocalised electrons**

Which of the following options is used in glass and cement manufacture.

**Lead**

\_\_\_\_\_ is used to strengthen rubber, as a pigment in inks, paints, paper and plastics.

**Carbon black**

\_\_\_\_\_ is used for making crucibles, as a lubricant in heavy machines and as pencil lead.

**Graphite**

Tin is obtained by \_\_\_\_\_.

**Reduction of oxides of tin with carbon**

Although diamond occurs in nature but it can be obtained artificially by \_\_\_\_\_.

**Subjecting carbon to high temperature and pressure**

Germanium is obtained by \_\_\_\_\_.

**Reduction of germanium dioxide with carbon or hydrogen**

Commercial form of silicon can be obtained by \_\_\_\_\_.

**Reduction of silicon dioxide with calcium II carbide in an electric furnace**

\_\_\_\_\_ is formed when petroleum gases or natural gas is burnt in a limited supply of air.

**Carbon black**

Diamond and SiC (silicon carbide) have the same structure, but, they differ in that \_\_\_\_\_.

**In diamond, each carbon is tetrahedrally bonded to four other carbons, while in SiC silicon is tetrahedrally bonded to four other carbons**

The ability of the molecules of graphite held together to slide past one another imparts in it

\_\_\_\_\_.

**Softness**

Diamond is one of the hardest substances known due to the presence of \_\_\_\_\_ in its structure.

**Three dimensional linkages**

The different layers or molecules of graphite are held together by \_\_\_\_\_.

**van der Waals forces**

\_\_\_\_\_ is a component of coal and petroleum.

**Carbon**

Diamond behaves as an insulator because of \_\_\_\_\_.

**Strong ionic bonds formed within its molecule restricting mobility of electrons**

\_\_\_\_\_ occurs in the elemental state as diamond and graphite.

**Carbon**

The softest of the allotropes of carbon is \_\_\_\_\_.

**Graphite**

Coke and charcoal are formed by \_\_\_\_\_. Destructive distillation of coal and hardwood or bones in the absence of air Pyrolysis of coal and hardwood or bones in the absence of air

None of the above

**All of the above**

Nitrogen is quite inert at room temperature because of \_\_\_\_\_.

**Multiple bonds between its atoms**

Nitrogen reacts with metals of low ionisation energy because of \_\_\_\_\_.

**Its small size and high electronegativity**

Diamonds are used in jewellery on account of their \_\_\_\_\_.

**High refractive index and dispersive power**

The forms of carbon include \_\_\_\_\_.

**Coke, charcoal and carbon black**

\_\_\_\_\_ is the main type of halides formed by Group 5 elements.

**Trihalides**

Ammonia functions as an electron donor because of \_\_\_\_\_.

**Lone pair of electron on the nitrogen atom available for donation**

Hydrazine has how many lone pairs of electrons?

**Two**

Group 5 elements form compounds mainly in two oxidation states, namely \_\_\_\_\_.

**+3 and +5**

\_\_\_\_\_ are formed when vapourised carbon condenses in an atmosphere of inert gas and produces clusters with 60 carbon atoms or 70

**fullerenes**

\_\_\_\_\_ is the only liquid halogen.

**Bromine Br**

The only halogen that can oxidize chlorine is \_\_\_\_\_.

**fluorine F**

Interhalogens have physical properties that are intermediate between those of their parent halogens,

\_\_\_\_\_ True/false

**true**

If X and Y are two different halogens, then the X-Y bond is more polar than the X-X or Y-Y bond.....

True/false

**true**

The element known as 'super halogen' is.....

**Fluorine**

Of all halogens,..... has the highest ionization energy

**Fluorine**

.....has the highest electronegativity value

**Fluorine**

The halogen..... is solid at room temperature

**Iodine**

The halogen which has only two complete electron shells below the valence shell is.....

**Chlorine**

The oxide of nitrogen which is colourless and rather unreactive is .....

**Nitrogen(I)oxide / nitrous oxide**

The ground state electronic configuration of phosphorus is .....

**1s<sup>2</sup> 2s<sup>2</sup> 2p<sup>6</sup> 3s<sup>2</sup> 3p<sup>3</sup>**

Nitriles are oxidized to nitrates by .....

**Nitrifying**

Ammonium compounds are converted into nitriles by ..... bacteria

**Nitrosifying**

Bacteria which convert nitrogen compounds into free nitrogen are known as ..... bacteria

**Denitrifying**

Bacteria which convert nitrogen into its compounds are called..... bacteria

**nitrogen-fixing**

Conversion of nitrogen into its compounds is known as.....

**Nitrogen fixation**

Continuous exchange of nitrogen between the atmosphere and the biosphere is called.....

**nitrogen cycle**

Hydrazine is used as a..... along with liquid air or oxygen as oxidant.

**rocket fuel**

The molecular formula of hydrazine is .....

**N<sub>2</sub>H<sub>4</sub>**

Ammonia acts as a Lewis base because it possesses a .....

**lone pair of electrons / lone electrons**

The hybridization of nitrogen in ammonia is .....

**sp<sup>3</sup>**

All group V elements Except .....react with sulphur to form sulphides.

**Nitrogen / N**

The allotrope of phosphorus used in matches and fireworks is .....

**red phosphorus**

.....are the fibrous silicates, having high tensile strength and heat/fire resistance, used as insulators and steam pipe lagging.

**Asbestos**

The 'great balls of carbon' in which carbon atoms are symmetrically arranged in closed shells are known as .....

**Fullerenes**

Of the group IV element, the one that exhibits anomalous behaviour is.....

**Carbon / C**

Zeolites are also called.....

**Permutits**

.....is obtained when of silicates mainly of sodium and calcium is melted and supercooled

**glass / transparent solid**

Polytetrafluoroethane (PTFE) is commercially known as.....

**Teflon**

.....is a property by virtue of which elements form long chain compounds by single or multiple bonds between of the same element.

**Catenation**

The form of carbon that conducts electricity is.....

**Graphite**

The group of elements in the periodic table that is associated with semiconductor properties

is.....

**Four / IV**

Silicon and germanium do not exhibit allotropy.....(True/false)

**true**

The second most abundant element in the earth's crust after oxygen is.....

**Silicon / Silicon(IV)oxide**

The only group IV element that occurs in the elemental state is.....

**Carbon / C**

The most metallic element in group IV is.....

**Lead / Pb**

Elements having some metallic and nonmetallic properties are called.....

**Metalloids**

A derivative of ..... is used in making photographic plates

**bromine / Br**

Teflon is formed from a derivative of.....

**fluorine/ F**

The thermal stability of hydrogen halides decreases from HF to HI ..... (True/false)

**true**

The strongest acid among the hydrogen halides is.....

**HI / hydroiodic acid**

Halogen means.....

**salt producer / salt former**

.....is a gas formed by the action of an acid on a carbonate

**CO<sub>2</sub> / Carbondioxide**

Zeolites are used in water as.....

**Softeners**

The group V metal that can not be obtained from its sulphide ore is.....

**Nitrogen / N**

Mixed chloroflorocarbons are known as.....

**Freons**

Arsenic has a.....odour

**garlic-like / garlic**

Silicones are a group of.....

**Organosilicon polymers / organosilicon**

The purest form of silicon dioxide is.....

**rock crystal**

The group V element that forms alloys with metals is.....

**Bismuth / Bi**



The most reactive form of phosphorous is.....

**brown phosphorus / brown**

The oxide of nitrogen that gives a positive brown ring test is.....

**nitric oxide / nitrogen(II)oxide**

High purity silicon is obtained from.....

**Silicon tetrachloride / Silicon(IV)oxide**

An example of amorphous form of carbon is.....

**lamp black / soot**

The structure of graphite is.....

**hexagonal planar / hexagonal**

The two crystalline allotropies of carbon are.....

**Diamond and graphite**

Clays are essentially alumina-silicates of.....

**sodium / Calcium**

Which of these is not a carbide?\_\_\_\_\_

**dative** ionic

covalent

interstitial

When carbon is linked to elements of lower or approximately the same electronegativity, the binary compounds formed are termed?

**Carbides**

Solid Carbondioxide is known as \_\_\_\_\_

**dry ice**

Silicates are salts of \_\_\_\_\_

**Silicon tetraoxide**

Lead dioxide is used as \_\_\_\_\_

**Dentonator**

Zeolites is used in water as \_\_\_\_\_

**Softener**

Which of the group V elements give only one oxidation state?

**Bismouth**

Nitrogen Lead

phosphorus

Which of the group V oxoacids is manufactured by Ostwald process?

**nitric acid**

dinitrogen tetraoxide

nitrogen hydroxide

nitrous oxide

Aqua regia is a mixture of Nitric acid and \_\_\_\_\_

**Concentrated Hydrochloric acid**

Which of the group V metals can not be obtained from its sulphide ore? Lead

Bismouth

**Nitrogen**

phosphorus

Which of these is not an interstitial carbide?

tungsten carbide

Vanadium carbide

**boron carbide**

titanium carbide

Which of these is true of interstitial carbide?

They are binary compounds they are

amorphous compounds they are

soluble compounds

**they are non stoichiometric compound**

The following are crystalline forms of silica, except-----

Quartz

**Crystaamite**

tridymite

cristobalite

The heavier elements of group IV functions as-----

**lewis acid**

Which of these is an example of covalent carbides? dicloro

silicon

**SiC**

Tetrachloro silicon

TiC

Mixed chloroflorocarbons are known as -----

**Freons**

Which of the following is responsible for the easy hydrolysis of lead halides ?

**Availability of d-orbitals and low bond energy of Pb-H bond**

availability of lone pair of electron in P orbital

availability of lone pair of electron in d orbital completely filled  
d orbitals by electron

One of these is not a form of silica

Flint

Tridymite

Cristobalite

**Freons**

The purest form of silicon dioxide is----

**rock crystal**

Which of these is not a raw material for the cement manufacture? Alumina

**Silicate**

Lime

Silica

Which of these is not a component of lead-acid battery?

Tetraoxosulphate(VI) acid

lead oxide

**lead chloride**

spongy lead

Which of these statements is not true of group V elements ?

Phosphorus exists both in gaseous and solid forms

Nitrogen exists as a diatomic molecule

**bismuth is predominantly non- metallic in nature**

antimony is a metalloid

Nitrogen is used for all but one of the following \_\_\_\_\_

freezing of foodstuffs

freeze grinding of normally soft and rubbery materials

**in making fire works**

in the packaging of processed foods

Nitrogen is obtained commercially from \_\_\_\_\_

**Air**

Which of these is not a group V element?

Nitrogen

Arsenic

Phosphorus

**Calcium**

A derivative of ----- is used in making photographic plates

**Bromine**

PVC pipes are manufactured using

**Chlorine**

Teflon is form from a derivative of-----

**Flourine**

Deficiency of one of these leads to goitre in humans

**Iodine**

Which of these halogens shows no basic properties

Chlorine

Bromine

**Flourine**

Iodine

The thermal stability of hydrogen halides-----

**increases from HF to HI**

Which of these halogen oxides is useful in the estimation of CO

Chlorine

Bromine

Flourine

**Iodine**

One of these statements is not true of oxides of halogen.

**All oxides of halogens have positive free energies of formation**

The higher oxides tend to be more stable than the lower

Except for that of iodine all oxides tend to be explosive

Chlorine oxides are used as bleaching agents

Which of these halogens does not form oxoacids ?

Chlorine

Bromine

**Flourine**

Iodine

Compounds formed by the interaction of one halogen with other halogens are called -----

**Interhalogens**

One of these is not a pseudo halogen.

cyanogen

thiocyanogen

selenocyanogen

**Teflon**

Fluorine reacts with alkalis to yield-----

**the oxide**

Halogen means-----

**salt producer**

Flourine has all but one of these properties The  
oxidation state of is -1

It can oxidize all the other halide ions to their respective elements

**The size is larger than the other halogens**

it is the strongest oxidizing agent in the whole group

Which of these statements is not true of halogens ?

They are only one electron short of the noble gas configuration

**They form the cation  $X^+$**

Fluorine is the strongest oxidising agent in the whole group The  
bond in interhalogen compounds is polar

Which of these is used in making crucible?

**graphite**

coke coal

High purity silicon is obtained from-----

**Silicon tetrachloride**

**Which of these compounds is used as antiknock additives to petrol for internal combustion engines?**

lead sulphate lead

oxide **Tetramethyl**

**lead** lead chloride

The property by which elements form long chain compounds by single or multiple bond formation between  
atoms of the same elements is----

**Catenation**

Which of these is not a component of lead-acid battery?

tetrehydrooxsulphate(VI)aci

lead oxide **lead**

**chloride** spongy

lead

Which of these elements of group IV can form compounds easily in +2 oxidation state C

Si

**Pb**

Ge

Activated charcoal is used \_\_\_\_\_

**As decolourizing agent**

Which of these is not a form of carbon?

Coke charcoal  
carbon black  
**carbon hydride**

Artificial graphite can be produced on a large scale by heating  
**Coke with silica**

Artificial diamond can be produced by quenching----  
**a solution of carbon in iron**

Which of these elements shows polymorphism? Si  
C  
**Sn**  
Pb

An example of amorphous form of carbon is-----  
**Lampblack**

Each carbon in Diamond is bonded to  
**4 Carbon atoms**

Diamond behaves as an insulator because-----  
**It does not have mobile electrons**

The three dimensional linkages makes diamond one of the  
**Hardest**

The structure of graphite is- ----

**Regular planar hexagonal**

Which of these two elements are important components of semiconductors and transistors? Ge and Sn

Sn and Pb

Si and Pb **Si**

**and Ge**

The two allotropies of carbon are-----

**Diamond and Graphite**

Clays are essentially alumina-silicates of -----

**Na or Ca**

Allotropy is the existence of elements in more than-----

**One form**

\_\_\_\_\_are formed by combination of carbon with some transition metals.

**Interstitial carbides**

Halogens exhibit variable oxidation states due to the availability of vacant d orbitals\_\_\_\_\_.

**Flourine**

Among the halogens\_\_\_\_\_can oxidise all the other halide ions to their respective elements.

**Flourine**

The number of covalent bond formed by the halogens is\_\_\_\_\_.

**1**

\_\_\_\_\_means salt producer.

**Halogen**

The ability to remove electrons makes halogens\_\_\_\_\_

**Strong oxidizing agents**

\_\_\_\_\_is the main types of halides formed by Group 5 elements.

**Trihalides**

\_\_\_\_\_is obtained commercially from Fractional distillation of liquid air

**Nitrogen**

Hydrolysis of silicon tetrachloride gives\_\_\_\_\_.

**silicic acid**

\_\_\_\_\_are fibrous silicates.

**Asbestos**

\_\_\_\_\_is obtained by reduction of oxides of tin with carbon.

**Tin**

Lead is used in glass and\_\_\_\_\_manufacture.

**Cement**

\_\_\_\_\_is formed when a mixture of silicates mainly of sodium and calcium is melted and supercooled to a low temperature.

**Glass**

Tetrafluoroethene can be polymerized thermally or in aqueous emulsions to a chemically inert plastic known as\_

\_\_\_\_\_.

**Polytetrafluoroethene**

The simplest fluorocarbon obtained by the reaction of carbon tetrachloride with silver fluoride at 575K is

\_\_\_\_\_.

**Carbon tetrafluoride**

\_\_\_\_\_are layer structured silicates.

**Mica**

Along the period of the periodic table, the elements with the highest ionisation energies next to the noble gases in the respective periods are the \_\_\_\_\_.

**Halogens**

Along the period of the periodic table, the elements with the highest electron affinity next to the noble gases in the respective periods are the \_\_\_\_\_.

**Halogens**

\_\_\_\_\_ are the most electronegative elements in their respective periods.

**Halogens**

When one of the P – P bonds in P<sub>4</sub> is broken a polymeric form of phosphorus known as \_\_\_\_\_ is formed.

**Red phosphorus**

The most metallic of the allotropes of phosphorus is \_\_\_\_\_.

Black phosphorus

Tetravalent compounds of heavier elements of Group 4 function as Lewis acids and are able to accept electron pairs from bases, because of the availability of \_\_\_\_\_.

**d orbitals**

\_\_\_\_\_ is formed when nitrogen from air and hydrogen from synthesis gas are reacted together at a high pressure of about 50 atmosphere and at a temperature of 800K in the presence of a finely divided catalyst.

**Ammonia**

\_\_\_\_\_ is formed when silica is fused with sodium carbonate.

Water glass

\_\_\_\_\_ are giant macromolecules consisting of carbon atoms linked by a network of covalent bonds.

**Diamond and graphite**

Ammonium ion formed on reaction with H<sup>+</sup> has a \_\_\_\_\_ structure.

**Tetrahedral**

Liquid ammonia is a basic solvent because it can easily accept a \_\_\_\_\_.

**Proton**

In graphite, each carbon forms three bonds with other carbons leaving one electron which is delocalised over the whole planar structure. These delocalised electrons make graphite a good \_\_\_\_\_.

**Conductor of electricity**

The Group 5 element that is stored under water to protect it from oxygen in the air so as not to catch fire is \_\_\_\_\_.

**Phosphorus**

Among the halogens Van der Waals forces of attraction are maximum in \_\_\_\_\_.



**Iodine**

Apart from Sb and Bi the compounds formed by elements of Group 5 are predominantly\_\_\_\_\_.

**Covalent**

On descending the group of Group 5 elements ionisation energy\_\_\_\_\_.

**Decreases**

The density, melting and boiling points of Group 5 elements\_\_\_\_\_with increase in atomic number as you move down the group.

**Increases**

Group 5 elements exhibit a highest oxidation state of \_\_\_\_\_.

**+5**

In the gaseous state phosphorus exist as\_\_\_\_\_.

**Tetra-atomic molecule**

Hydrazine can act as a coordinating ligand forming complexes with metal ions because of \_\_\_\_\_.

**It has lone pairs of electrons**

The tendency of\_\_\_\_\_to form multiple bonds easily is due to its high bond energy and small atomic radius.

**Carbon**

The compound among the options below with the least bond energy is\_\_\_\_\_.

**BiH<sub>3</sub>**

Silica gel is\_\_\_\_\_form of Silicon dioxide.

**Amorphous**

Carbon dioxide is used in fire extinguishers because of\_\_\_\_\_.

**It does not support combustion**

Which one of the following compounds is formed when carbides are decomposed by water or dilute acids?

**Acetylene**

Lightning discharge in the atmosphere converts nitrogen to\_\_\_\_\_.

**Nitric oxide**

Superphosphate of lime is a more effective fertilizer than phosphate rock because of\_\_\_\_\_.

**Ca(H<sub>2</sub>PO<sub>4</sub>)<sub>2</sub> is water soluble**

\_\_\_\_\_are formed by elements of 1,2, 3,11,12 and13 except boron.

**Ionic carbides**

Mixed chlorofluorocarbons or  $\text{CCl}_2\text{F}_2$ ,  $\text{CFCl}_3$ , and  $\text{CF}_3\text{Cl}$  are used in refrigeration and aerosol propellants because of \_\_\_\_\_.

**They are volatile, thermally stable and chemically inert**

The small size and high electronegativity makes \_\_\_\_\_ react with metals of low ionisation energy..

**Nitrogen**

Multiple bonds between its atoms make \_\_\_\_\_ inert at room temperature.

**Nitrogen**

Graphite is the \_\_\_\_\_.

**Softest of the allotropes of carbon**

Among the Group 4 elements, moving from carbon to silicon the covalent radius increases sharply afterwards the increase is gradual; this is attributed to the fact that \_\_\_\_\_.

**As we move down the group upto silicon effective nuclear charge outbalances the effect of additional shell leading to only a marginal increase in size**

Which of the following statement is true?

**Halogens exist as non-polar diatomic molecules**

Nitrogen is not able to form coordination number beyond four whereas other members of its Group is able to because of \_\_\_\_\_.

**P, As, Sb and Bi can attain  $\text{sp}^3\text{d}^2$  and  $\text{sp}^3\text{d}$  hybridization whereas Nitrogen cannot**

\_\_\_\_\_ occurs in the elemental state as diamond and graphite

**Carbon**

\_\_\_\_\_ is used to create inert atmosphere where the presence of air would involve fire, explosion hazards or undesirable oxidation products.

**Nitrogen**

Isolation of fluorine presented a tough problem to chemist before it was finally isolated due to \_\_\_\_\_.

**High chemical reactivity of fluorine towards other elements**

Which of the options below shows how carbon behaves differently from the rest of the elements in its group?

**Carbon is the only element in the group that can form stable derivatives with double and triple bonds**

The principal constituents of all rocks, clays and soils are \_\_\_\_\_.

**Silicates**

The purest and most stable form of silica is \_\_\_\_\_.

**Quartz**

Sandstone, granite and slate are examples of \_\_\_\_\_.

**Natural silicates**

The chief constituent of glass is\_\_\_\_\_.

**Silica**

The difference between silica and silicate is\_\_\_\_\_.

**Silica is made of  $\text{SiO}_2$  units whereas silicate is made of  $\text{SiO}_4$  unit**

All the elements of Group 5 can expand their octet except\_\_\_\_\_.

**Nitrogen**

In the gaseous state phosphorus exist as\_\_\_\_\_.

**$\text{P}_4$**

\_\_\_\_\_is a crystalline form of silica.

**Quartz**

The most stable hydride of phosphorous is\_\_\_\_\_.

**Phosphine**

The tendency of gaining an electron to acquire a stable noble gas configuration makes the halogens\_\_\_\_\_.

**Have high electron affinity**

Most Group 4 elements form mostly covalent compoundsbecause of\_\_\_\_\_.

**Very large amount of energy is required to form  $\text{M}^{4+}$  ion**

Diamond is not a conductor of electricity because of\_\_\_\_\_.

**It does not have delocalised electrons**

The ability of the molecules of graphite held together to slide pass one another imparts in it\_\_\_\_\_.

**Softness**

Tin exhibit polymorphism because of\_\_\_\_\_.

**It exists in two crystalline forms**

Diamond behaves as an insulator because of\_\_\_\_\_.

**Strong covalent bonds formed within its molecule restricting mobility of electrons**

The softest of the allotropes of carbon is

**Graphite**

Coke and charcoal are formed by

**All of the above**

Nitrogen is quite inert at room temperature because of

**Multiple bonds between its atoms**

Nitrogen react with metals of low ionisation energy because of  
**Its small size and high electronegativity**

Diamond are used in jewellery on account of their  
**High refractive index and dispersive power**

The forms of carbon include  
**Coke charcoal and carbon black**

is the main types of halides formed by Group 5 elements  
**Trihalides**

Ammonia functions as an electron donor because of  
**Lone pair of electron on the nitrogen atom available for donation**

Hydrazine has how many lone pairs of electrons  
**Two**

Group 5 elements form compounds mainly in two oxidation states namely  
**3 and 5**

Which of the options below shows how carbon behaves differently from the rest of the elements in its group  
**Carbon is the only element in the group that can form stable derivatives with double and triple bonds**

The principal constituents of all rocks clays and soils are  
**Silicates**

The purest and most stable form of silica is  
**Quartz**

Sandstone granite and slate are examples of  
**Natural silicates**

The chief constituent of glass is  
**Silica**

The difference between silica and silicate is  
**Silica is made of  $\text{SiO}_2$  units whereas silicate is made of  $\text{SiO}_4$  units**

All the elements of Group 5 can expand their octet except  
**Nitrogen**

In the gaseous state phosphorus exist as

P4

The most stable hydride of phosphorous is

**Phosphine**

Other halogens apart from fluorine exhibit variable oxidation states due to

**Other halogens have vacant d orbital whereas fluorine doesn't**

Ammonifying bacteria present in the soil decompose plants and animals when they die into

**Nitrogen and ammonium compounds**

Tin is obtained by the

**Reduction of oxides of tin with carbon**

occurs in the elemental state as diamond and graphite

**Carbon**

Tin exhibit polymorphism because of

**It exists in two crystalline forms**

Which of the options below indicates how carbon behaves differently from other members of Group 4 **Carbon has a much higher electronegativity and higher ionisation energy than other elements in the group**

The reactivity of the various allotropes of phosphorus towards other substances decreases in the order

**brown white red black**

The tendency of gaining an electron to acquire a stable noble gas configuration makes the halogens

**High electron affinity**

The element with the highest electron affinity amongst the halogens is

**Chlorine**

are formed by elements of 12 3 11 12 and 13 except boron

**Ionic carbides**

Boron and silicon combine with carbon to form

**Covalent carbides**

are formed by elements of 12 3 11 12 and 13 except boron

**A: Ionic carbides**

Which of the following options is used in glass and cement manufacture

**Lead**

Among the Group 4 elements moving from carbon to silicon the covalent radius increases sharply afterwards the increase is gradual this is attributed to

**As we move down the group after silicon effective nuclear charge outbalances the effect of additional shell leading to only a marginal increase in size**

Tin is obtained by

**Reduction of oxides of tin with carbon**

Group 4 elements form mostly covalent compounds because of

**Very large amount of energy is required to form a M4 ion**

Which of the following statement is correct

**Hydrolysis of silicon tetrachloride gives silicic acid**

Diamond is not a conductor of electricity because of

**It does not have delocalised electrons**

Although diamond occur in nature but it can be obtained artificially by

**Subjecting carbon to high temperature and pressure**

The elements of Group 4 show oxidation states of

**2 and 4**

is used for making crucibles as a lubricant in heavy machines and as pencil lead

**Graphite**

is used to strenghten rubber as a pigment in inks paints paper and plastics

**Carbon black**

The Second most abundant element in the Earth's Crust is \_\_\_\_\_.

**Silicon**

The following elements are group 4 except \_\_\_\_\_.

**Aluminium**

Which of these elements is present in rocks and minerals \_\_\_\_\_.

**Silicon**

Nitrogen is quite inert at room temperature because of \_\_\_\_\_.

**Multiple bonds between its atoms**

Among group 4 elements \_\_\_\_\_ forms volatile chlorides.

**Lead**

Which of these element in group 4 forms allotope that conducts electricity?

**Carbon**

Which elements in a group show anomalous behaviours ?

**First**

Elements in P-blocks include \_\_\_\_\_.

**Silicon**

All S-block elements exhibit \_\_\_\_\_ stable oxidation states

**One**

All S-block elements are highly reactive except \_\_\_\_\_.

**Hydrogen**

What is the colour of iodine in gaseous state ?

**Violet**

One of these is an important salts of hypochlorous acid?

**CaOCl**

One of the shapes below is not found in the interhalogen molecules ?

**Hexagonal**

One of these is not a complex ion of iodine ?

**Triiodide**

Flourine occurs as one of these in the earthcrusts except\_\_\_\_\_.

**Saltpetre**

The following are Pseudohalogens except\_\_\_\_\_.

**Thiocynate**

The best known pseudohalide is\_\_\_\_\_.

**Cyande**

Halogens apart from florine exhibit variable oxidation states due to the avaliability of vacant\_\_\_\_\_orbttals.

**F**

The bond in interhalogen compounds is\_\_\_\_\_.

**Polar**

The binary compounds formed when carbon is linked to elements of lower electronegativity is called\_\_\_\_\_.

**Carbide**

The Second most abundant element in the Earth's Crust is\_\_\_\_\_.

**Silicon**

The following elements are group 4 except\_\_\_\_\_.

**Aluminium**

Which of these elements is present in rocks and minerals\_\_\_\_\_.

**Silicon**

The amorphous form of silica is known as\_\_\_\_\_.

**Flint**

Solid carbon IV oxide is known as\_\_\_\_\_.

**Dry ice**

In the lab, the gas formed by the action of acid and carbonate is called\_\_\_\_\_.

**CO<sub>2</sub>**

The dioxides of group 4 are thermally stable except\_\_\_\_\_.

**PbO<sub>2</sub>**

Teflon has\_\_\_\_\_coefficient of friction.

**Very low**

The simplest fluorocarbon is \_\_\_\_\_.

**CF<sub>4</sub>**

Fluorocarbons are resistant to attack by the following except \_\_\_\_\_.

**None of these**

All the elements of group 4 form dihalides except \_\_\_\_\_.

**Carbon**

Which of these carbides is used as abrasive?

**Boron Carbide**

What type of carbide is formed when carbon combines with elements of almost equal electronegativity?

**Covalent**

The amorphous form of silica is known as \_\_\_\_\_.

**Flint**

Solid carbon IV oxide is known as \_\_\_\_\_.

**Dry ice**

In the lab, the gas formed by the action of acid and carbonate is called \_\_\_\_\_.

**CO<sub>2</sub>**

The dioxides of group 4 are thermally stable except \_\_\_\_\_.

**PbO<sub>2</sub>**

Teflon has \_\_\_\_\_ coefficient of friction.

**Very low**

The simplest fluorocarbon is \_\_\_\_\_.

**CF<sub>4</sub>**

Fluorocarbons are resistant to attack by the following except \_\_\_\_\_.

**None of these**

All the elements of group 4 form dihalides except \_\_\_\_\_.

**Carbon**

Which of these carbides is used as abrasive?

**Boron Carbide**

What type of carbide is formed when carbon combines with elements of almost equal electronegativity?

**Covalent**

What is the colour of iodine in gaseous state?

**Violet**

One of these is an important salt of hypochlorous acid?

**CaOCl**

One of the shapes below is not found in the interhalogen molecules?

**Hexagonal**

One of these is not a complex ion of iodine?

**Triiodide**



Flourine occurs as one of these in the earthcrusts except \_\_\_\_\_.

**Saltpetre**

The following are Pseudohalogens except \_\_\_\_\_.

**Thiocynate**

The best known pseudohalide is \_\_\_\_\_.

**Cyande**

Halogens apart from florine exhibit variable oxidation states due to the avaliability of vacant \_\_\_\_\_ orbtais.

**F**

The bond in interhalogen componds is \_\_\_\_\_.

**Polar**

The binary compounds formed when carbon is linked to elements of lower electronegativity is called \_\_\_\_\_.

**Carbide**

The Second most abundant element in the Earth's Crust is \_\_\_\_\_.

**Silicon**

The following elements are group 4 except \_\_\_\_\_.

**Aluminium**

Which of these elements is present in rocks and minerals \_\_\_\_\_.

**Silicon**

Nitrogen is quite inert at room temperature because of \_\_\_\_\_.

**Multiple bonds between its atoms**

Among group 4 elements \_\_\_\_\_ forms volatile chlorides.

**Lead**

Which of these element in group 4 forms allotope that conducts electricity?

**Carbon**

Which elements in a group show anomalous behaviours ?

**First**

Elements in P-blocks include \_\_\_\_\_.

**Silicon**

All S-block elements exhibit \_\_\_\_\_ stable oxidation states

**One**

All S-block elements are highly reactive except \_\_\_\_\_.

**Hydrogen**