

Q- Why two atoms want
chemical bonding? Explain any
three types.

Ans, Chemical Bonding:

Chemical bonding is
that bonding which is
made with the electronic
force of attraction between atoms.

Reason of Chemical Bonding:

The reason of chemical
bonding is that the atoms
only satisfy to fill their
valence shells according to
the octet rule, having
eight electrons in the outermost
shell.

Types of Chemical Bonding:

There are some
types of chemical bonding
which are given below.

1- Ionic Bond:-

The Ionic is derived

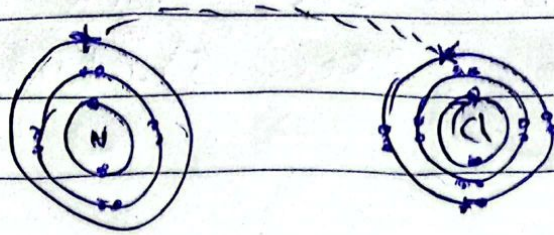
from the word "ion" which means "any charged species". Ionic bond is that bond which is formed by sharing of one electron from one atom to another completely.

For example, Sodium and chloride make ionic bond with each other.



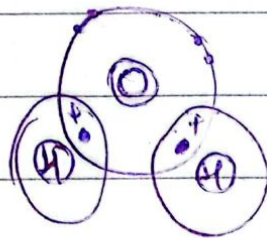
Sodium has 11 electrons and chloride has 17 electrons usually, but here chloride has 16 electrons. Now, chloride, in order to, to stabilize itself wants chemical bonding. Sodium is ready to give its one electron to chloride because sodium will be stable after sharing it to chloride. So,

Sodium will share its electron to chloride and chloride is now stable as it is shown below.



2. Covalent Bond

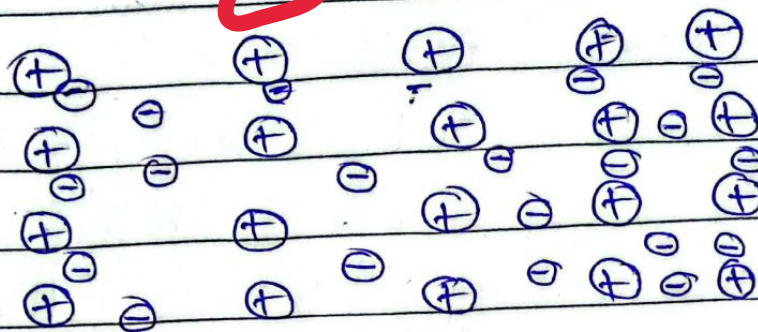
Covalent bond is that kind of bond which is formed by the mutual sharing of electrons in atoms. Just as water molecule, hydrogen and oxygen form covalent bonds in order to fulfill the octet rule.



So, they make covalent bond together to fulfill their valence shells.

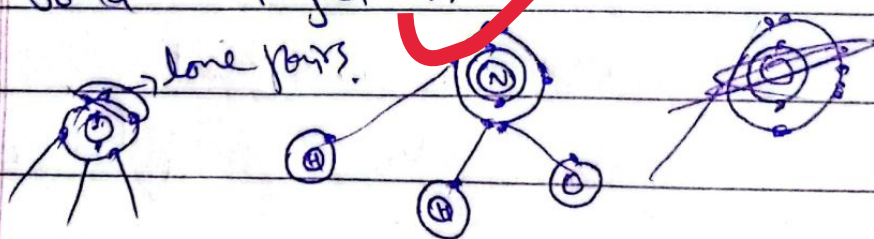
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3. Metallic Bond:-

Metallic bond is that bond which is formed between positively charged ions and free electrons. The ions and electrons both form a ~~lattice~~ lattice like structure.



(4) Coordinate Covalent Bond

This kind of bond is made by sharing lone pairs of electrons with other atoms. Just like in ammonia, hydrogen and nitrogen make coordinate covalent bond together.



Q- What are isotopes, isotones and isobars. Give examples of isotopes of Hydrogen.

Ans, Isotopes:

Isotopes are those atoms which have same number of protons but different number of neutrons.

Isobars:

Isobars are those atoms which have same number of protons.

Isotones:

Isotones are those atoms which have equal number of protons, neutrons.

Isotopes of Hydrogen:

The isotopes of Hydrogen are **Draw the structures as well**

Tritium ($A=3$), Protium ($A=1$) and deuterium ($A=2$)

What is GIS?

GIS is a computer system which is used to monitor, measuring, directing, mapping, capturing, storing, analyzing and displaying geographical information provided and identified on the basis of the given data.

Components:-

The components of GIS are,

Hardware:-

Hardware is the main part and system of computer which helps in processing the whole process.

Software:-

Software is that micro-soft system which helps

the whole process by different apps and system which directs the hardware to do an action.

Data:

Data which is provided by the source on which basis the whole process is functioned. If there is no data, there will be no junction. So, it is the basic element.

People:

The people is the main force behind all system. They help to make the whole junction possible by performing different functions at different levels.

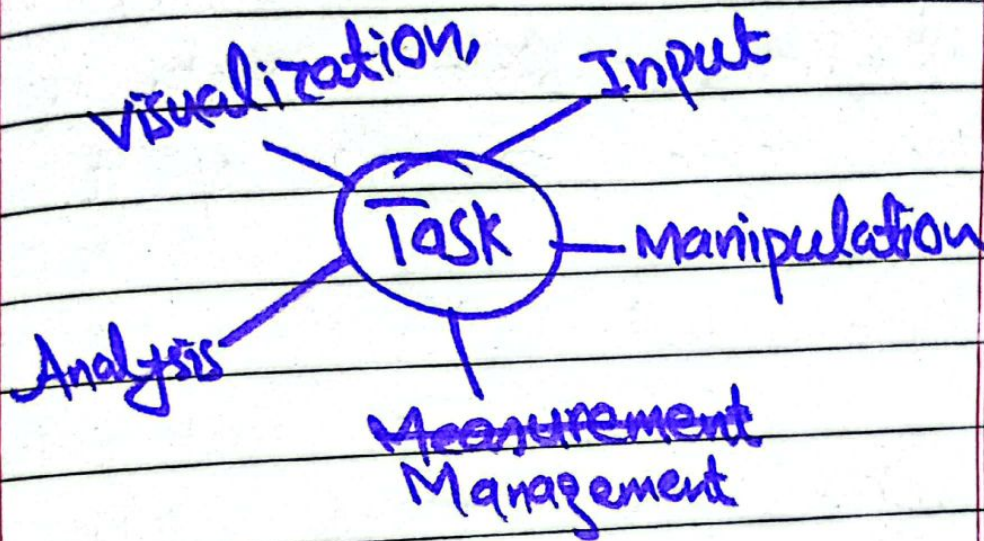
Procedures:

GIS is functioned according to a proper procedure which is well.

defined to reach an organized piece of information.

Tasks of GIS:

There are five main tasks that GIS perform, which are



Types

Desktop GIS:

Desktop GIS is a software mapping that needs to be installed into the computer which then enables to perform certain functions. It is used to analyse

Spatial data.

Geobrowser:

It can be understood as an internet explorer for geographic information. It is used to combine geographical information from various locations. Google earth is the main example of it.

Web-based GIS:

It is the most accurate system to define data and analyzing it. It is the online web-based system which is excellent data analysis tool system.

Applications of GIS

Urban Management	Zoning, Land acquisition, law enforcement
economic development	Tax assessment
Crime analysis.	

Environmental Sciences,

Political Sciences

↳ Redistricting

Analysis of election results

Civil Engineering Utility

↳ Locating underground facilities
Alignment for free transit etc

Business

↳ Demographic analysis

Site selection,