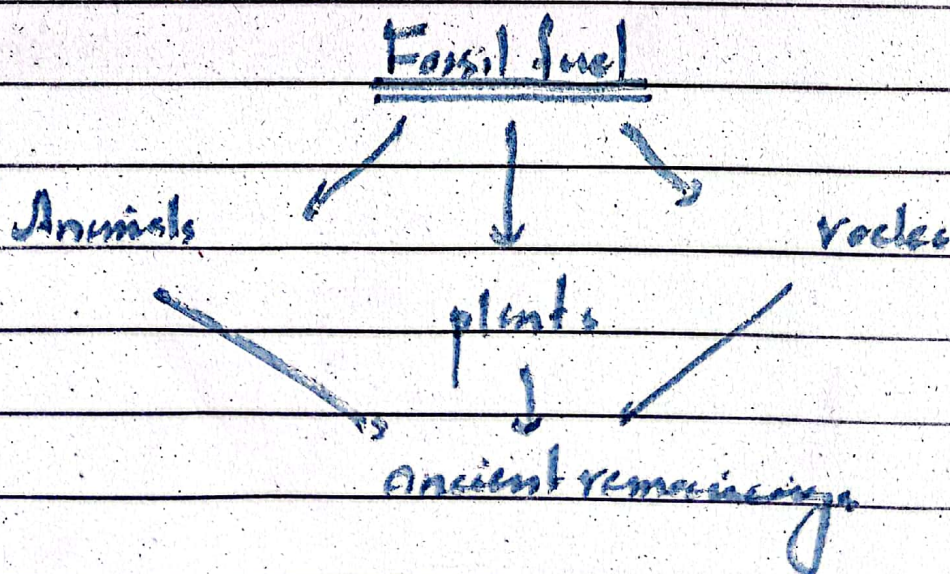


Q.1) What do you know about fossil fuel. Also describe its importance.

Answer Fossil fuel

Fossil fuel is remainings of old, ancient plants, animals, and rocks..

Fossil fuel is remaining of ancient plants, animals, and rocks. In fact, they became dead hundred, of thousands of years. These old remainings known as fossil fuels.



## Importance of fossil fuel

Fossil is importance of fossil fuel:

### i) Knowledge of history

Fossil fuels helps in exploring history and increases historical information.

e.g., Civilization of 'Mohen-jodaro'

### ii) Understanding of ecological factors

Moreover, fossil fuels help in understanding of ecological factors. In fact, fossil fuels helps in environmental sciences.

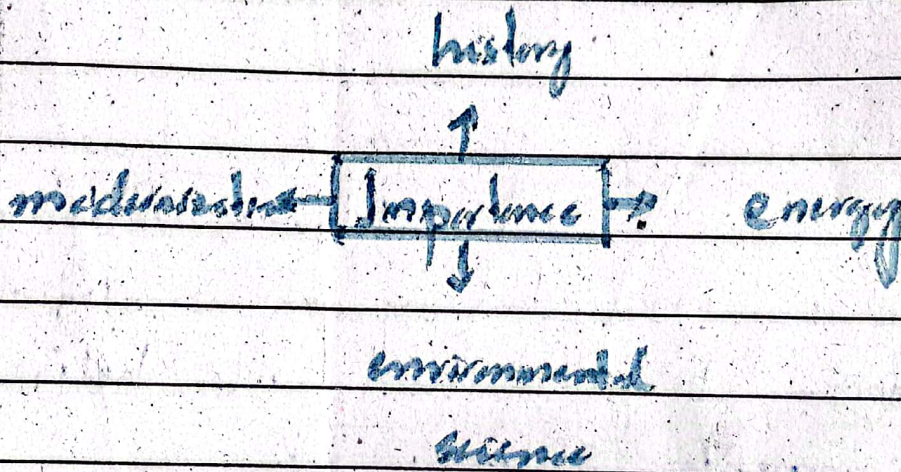
### iii) Modernization of life

Fossil fuels also leads to modernization of life. Old traditions are explored and are replaced by new, modern forms.

## iv) Energy generation

Fossil fuels also help in energy generation. In fact, remainings of ancient bodies are used to produce energy sources.

E.g. oil, gas, etc.



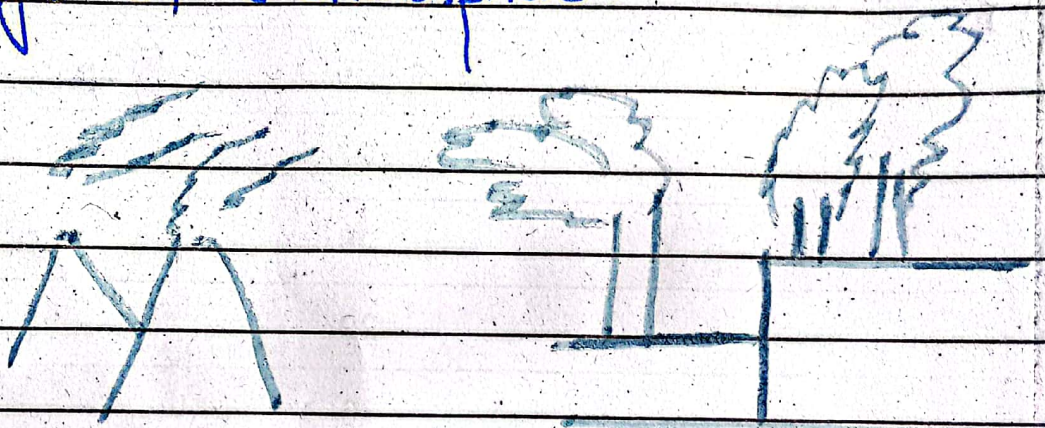
Q.4) What is atmospheric pollution?  
Also describe its cause.

## Atmospheric pollution

\* Atmospheric pollution

is known as air pollution?

Atmospheric pollution is known as air pollution. In fact, atmospheric pollution is an unwanted and undesired change in gases of atmosphere. Atmospheric pollution mainly occurs in troposphere layer of atmosphere.



atmospheric pollution

### Causes of atmospheric pollution

causes:

Following are

1) Burning of fossil fuel

Burning of fossil

fuel causes atmospheric pollution.  
C-e, oil, gas etc

## ii) Green house effect

Green house effect at certain level causes atmospheric pollution. In fact, increased concentration of gases become sources of air pollution.

"Pakistan is become the 10th most worst affected country of global warming."

(- The IPCC - 6th assessment, 2023)

Thus, green house effect also causes air pollution.

## iii) Rapid industrialization

Rapid industrialization also leads to air pollution.

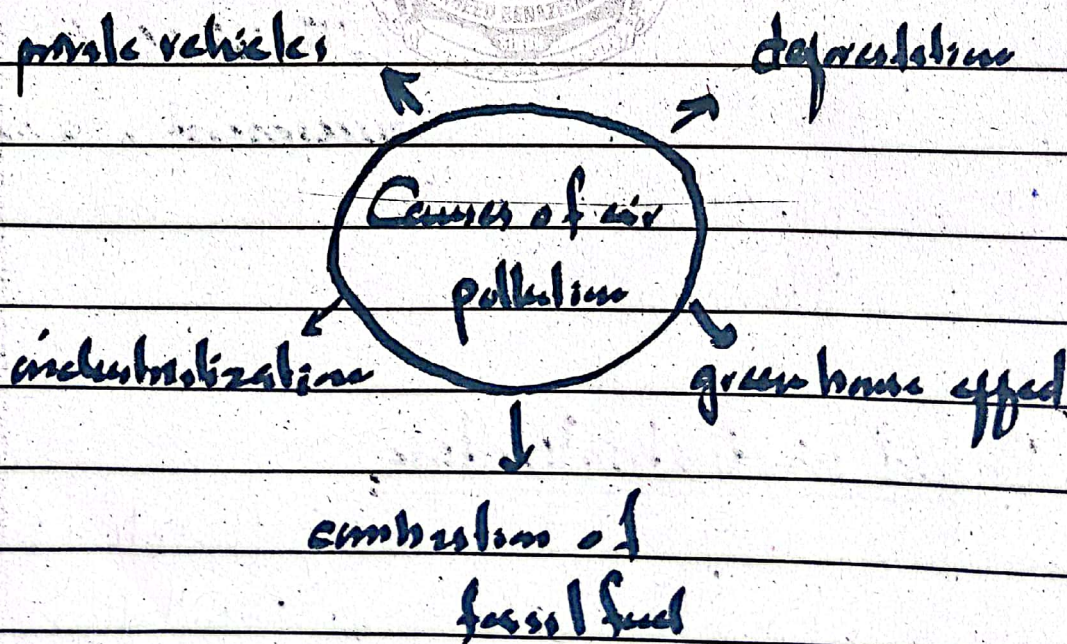


## iv) Massive Deforestation

Massive deforestation at global level also causes air pollution. In fact, carbon dioxide concentration contributes in atmospheric pollution.

## v) Private use of vehicles

Private use of vehicles also causes air pollution. Every individual prefers private vehicles rather than public vehicles.



Qc) Describe hepatitis and its types.

Answer Hepatitis

"Hepatitis is an inflammatory condition of liver."

Hepatitis is a viral disease. It affects liver of a person. In fact, hepatitis caused by virus and makes liver functioning useless.

Hepatitis



(viral disease)



(liver-died)

Types of hepatitis

Following are types:

i) Hepatitis A:

"Hepatitis A is caused

by Hepatitis-A virus."

Hepatitis A is caused by Hepatitis A-virus. It is transmitted through contaminated food and water. It has also a safe vaccine.

ii) Hepatitis-B

"Hepatitis B is a serious attack to liver."

Hepatitis B is a serious attack to liver. It causes acute and chronic diseases. It also has a safe vaccine. Moreover, Hepatitis-B is transmitted through fluid and blood of an infected person.

iii) Hepatitis-C

"Hepatitis C is also



a serious attack to  
liver like hepatitis

B."

Hepatitis C also damages condition of liver. It does not have any vaccine yet.

#### iv) Hepatitis-D

"Hepatitis-D is led by  
hepatitis-B."

Hepatitis D affects a person who is affected by hepatitis B. It transmits through fluid and blood.

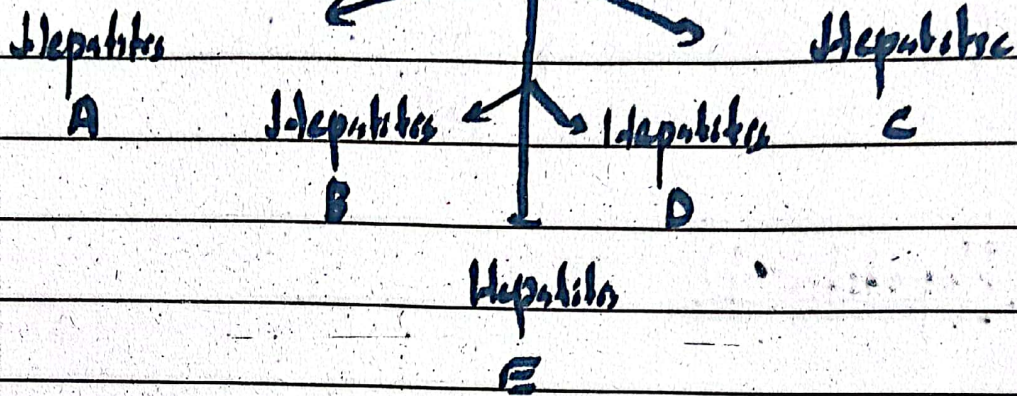
#### v) Hepatitis-E

"Hepatitis E is more  
common in developing  
countries."

Hepatitis E is  
not in abundance in developed wo-

rd.

## Types of hepatitis



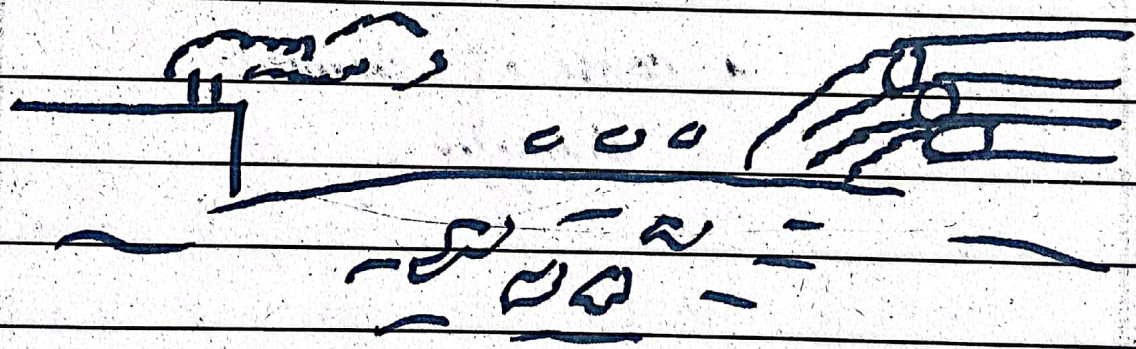
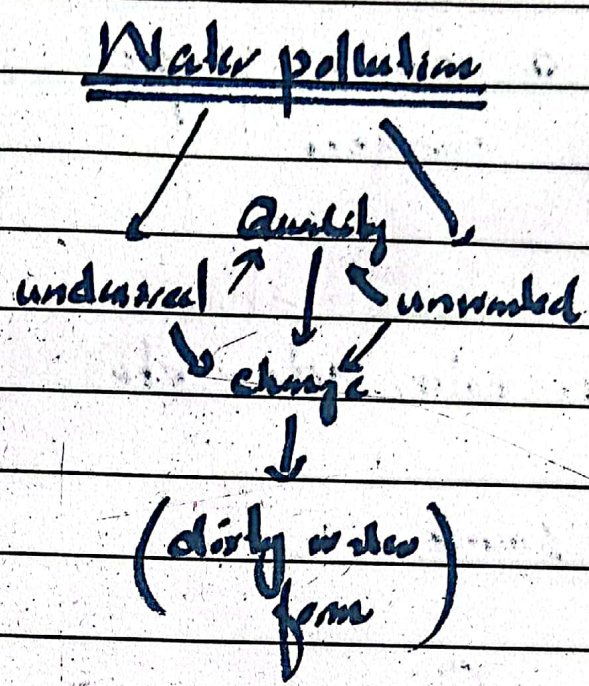
Qd) Define Water pollution. Also describe its sources.

Answer Water pollution

"Water pollution is unwanted change in quality of water."

Water pollution is an unwanted, undesired change in quality of water. In fact, water pollution is a dirty form of water. Thus, water does not remain capa-

ble for use. This is known as water pollution.



• Water pollution

Sources of water pollution

Following are

Sources:

## i) Physical source

"Physical source is a cause of physical change."

Physical sources lead to physical change in water.  
e.g., pH, color, odour etc

## ii) Chemical source

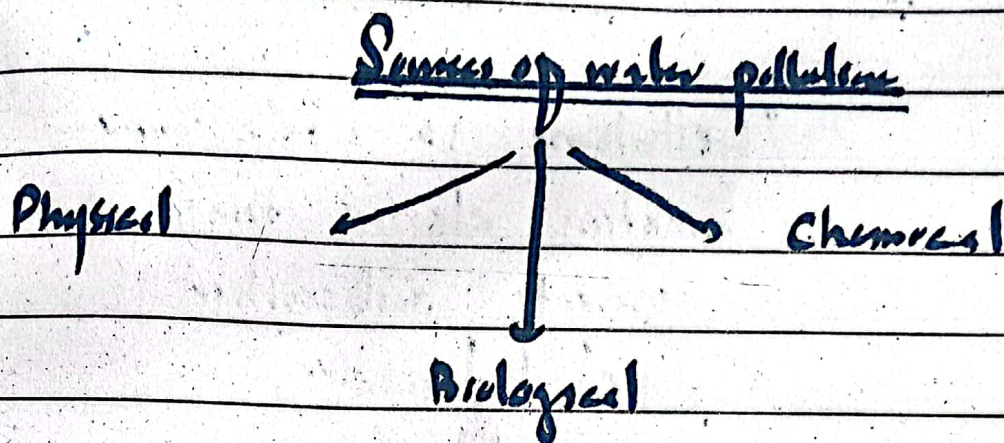
"Chemical source is a cause of chemical change."

Chemical sources destroys chemical composition of water and causes water pollution.  
e.g., Chlorine,  $CO_2$ , CFCs etc

## iii) Biological source

"Biological source is lead by micro-organisms."

Biological source is  
also a cause of water pollution.  
i.e., algae, fungus etc



Qa) Describe working and structure of a cell phone.

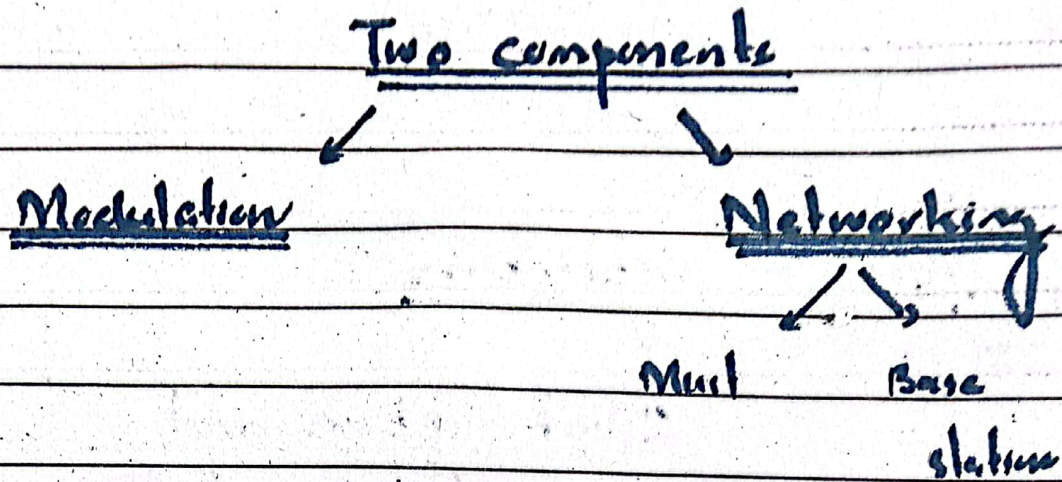
Answer Cellphone / Mobile phone

"Cellphone is a telecommunication device that connects subscriber and listener."

Cellphone is a telecommunication device. It uses radio signals to connect subscriber and listener through SIM (Subscriber Identity Modulation). Moreover, it was discovered in 1973.

Working and structure of a  
cellphone

Working and structure is as below:



a) Modulation of a cellphone

"Modulation boost up energy of radio waves."

Modulation helps in transmitting signals to far distances. In fact, radio waves are less energetic. Thus, modulation increases energy of radio waves.

b) Networking of a cellphone

"Networking is a cellular part of a cellphone."

Networking works

in two ways.

i) Must of networking

"Must captures and transmits signals."

Must helps in telecommunication.

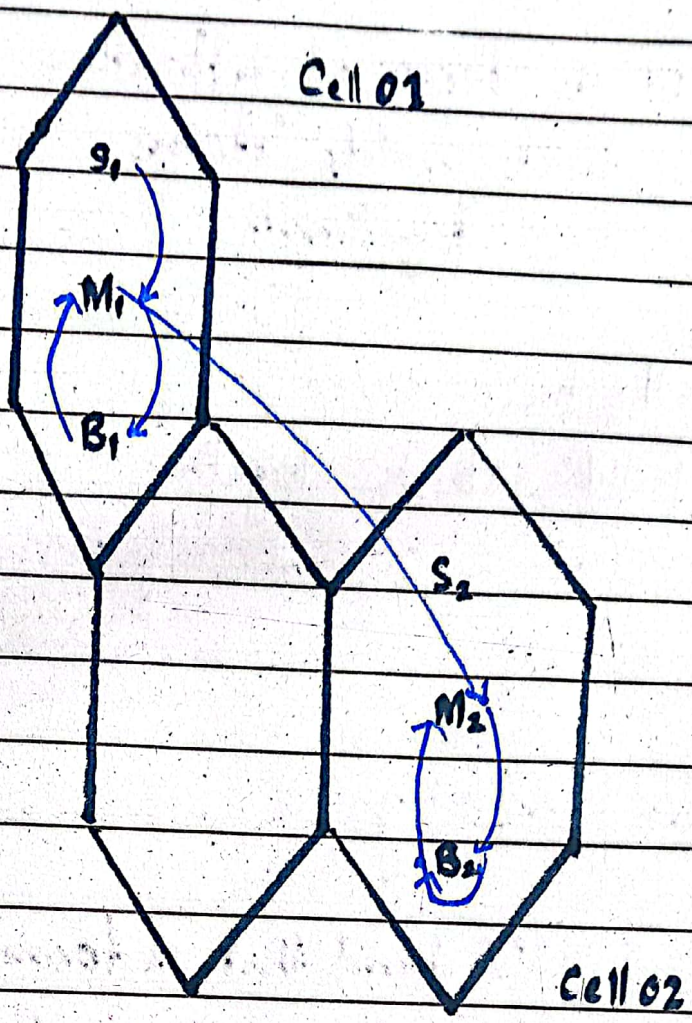
ii) Base station of networking

"Base station maintains the complete

process."

Base station carries out necessary process.





$S_1 =$  Subscriber  
 $S_2 =$  listener  
 $M =$  Must  
 $B =$  Base stations

Qb) Describe chemical bonding. Also describe metallic and hydrogen bonding.

Answer

Chemical bonding  
 "Chemical bonding"

is a force of attraction  
that holds atoms  
together."

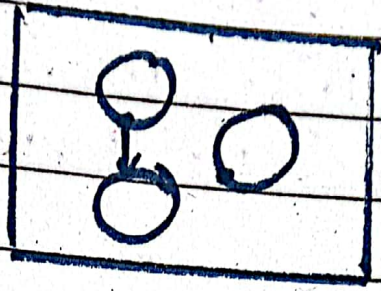
Chemical bonding is  
an attraction force that joins  
and hold atoms together either  
by sharing or transferring of  
electrons.

### a) Metallic bonding

"A bond that is formed  
between a free electron  
and  
positive atom of a  
metal."

Metallic bond is  
formed between an atom of a  
free electron and positively charged  
a metal.

Cu, Fe, Ag etc



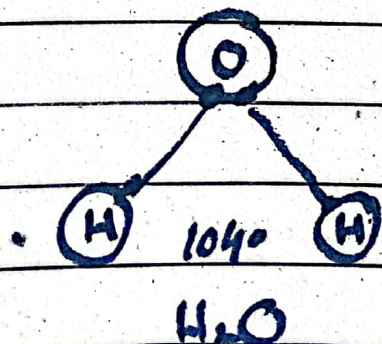
- metallic bond

## b) Hydrogen bonding

"A bond is formed due to hydrogen atom"

Hydrogen bond is formed due to hydrogen atom. It is formed in atoms of having high electronegativity and possess extra electrons.

- i.e.,  $\text{NH}_3$  is less hydrogen bonding than  $\text{H}_2\text{O}$ .



Q. e) What do you know about eclipse? Also describe solar eclipse and its further types.

Answer Eclipse

"Eclipse is a protection of one astronomical body by security of another astronomical body."

Eclipse is security of an astronomical object. In fact, astronomical object is protected by another astronomical object. Therefore, an eclipse is a guardian of astronomical bodies.

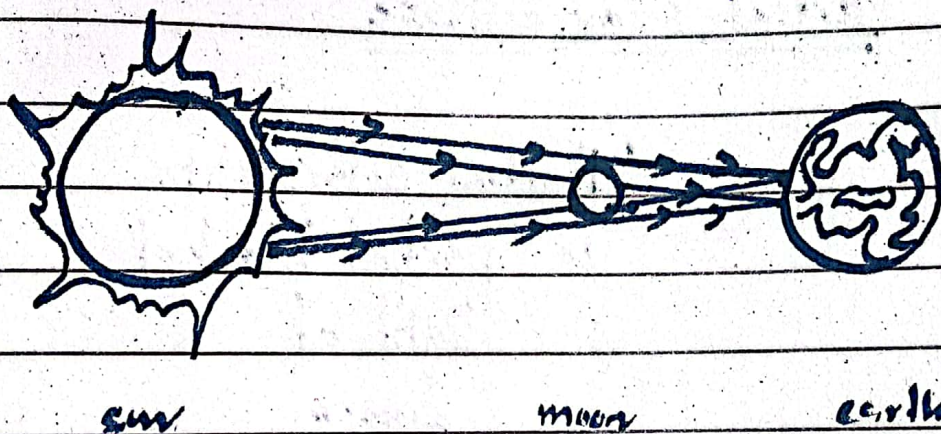
e.g., solar eclipse and lunar eclipse

Solar eclipse

"Solar eclipse occurs due to penitine

of moon."

Solar eclipse causes by presence of moon. In fact, moon comes in between sun and earth. Resultantly, moon blocks light of sun from reaching the earth. This is known as solar eclipse.



• Solar eclipse

### Types of solar eclipse

Following are

types:

a) Total solar eclipse

Total solar eclipse

blocks complete light."

When moon comes on the straight path of center line between earth and sun, it blocks full light of sun. Thus, it is known as total solar eclipse.

## (ii) Partial solar eclipse

Partial solar eclipse is partial blocked light of sun."

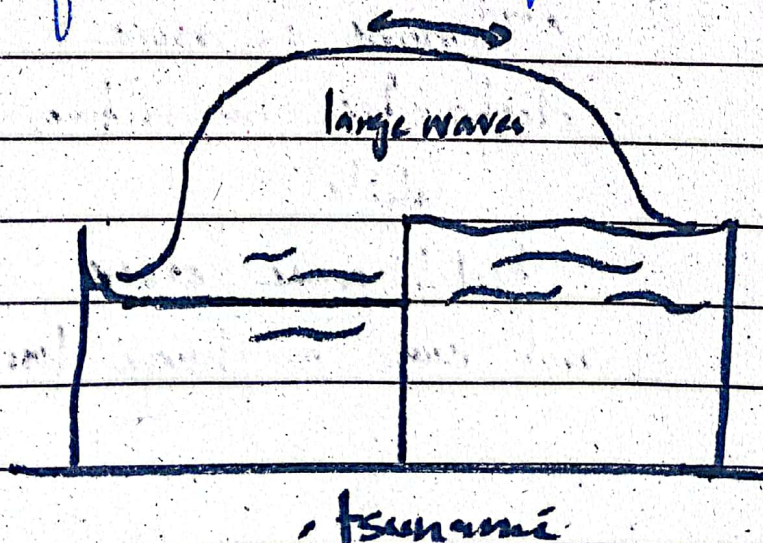
When moon comes above or below of center line between earth and sun, it allows some light to pass through and some light remain blocked. This is known as partial solar eclipse.

Qd) What do you know about tsunami?  
Also describe main difference between tsunami and tidal wave briefly.

Answer Tsunami

'Tsunami' is come from a Japanese word; 'tsu', mean 'harbours' and 'nami', means 'wave'.

Tsunami is large oceanic waves on the surface of sea. Tsunami is the fastest and the largest sea waves due to sudden hit of massive earthquake.



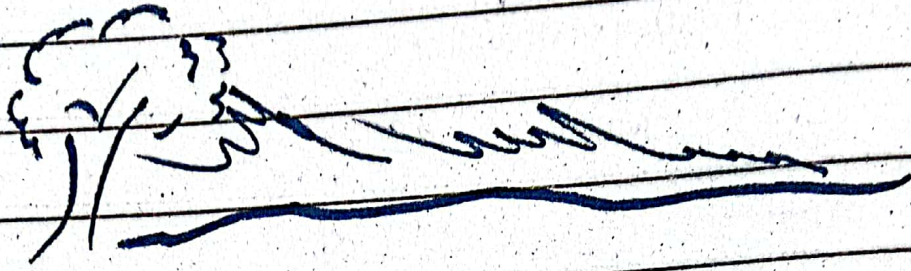
## Difference between tsunami and tidal wave

"Tsunami and tidal waves are two scales of the same event."

Tsunami is the massive outflow of oceanic waves in sea water, while Tidal waves are low pressure flow of sea waves on the surface of water. Moreover, tsunami is caused by geological factors like earthquake, while tidal waves caused by gravitational pull and weather.

"Tsunami is more destructive in nature, while tidal wave does not cause a huge loss."





• tidal wave



• tsunami

Thus, above is difference between tidal waves and tsunami.