

Q NO 2

a) Differentiate in between plant and animal cell.

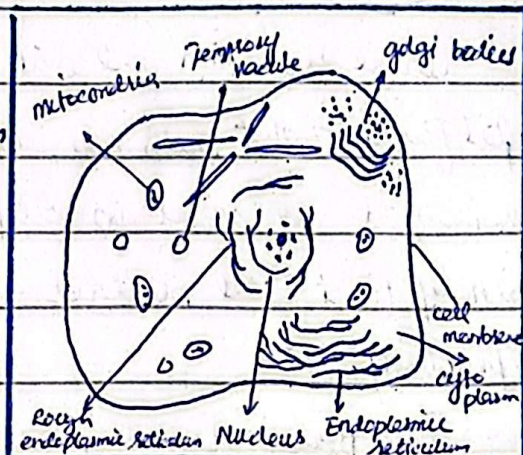
Cell is the building blocks of animal and plant life. It is the basic unit of life. Both plant and animal cells function as a basic unit of life for plants and animals but are different with each other. Following differences are there between plant and animal cells.

Both plant and animal cells are Eukaryotic cells having nucleus with complex nature. plants cells have cell wall, which make

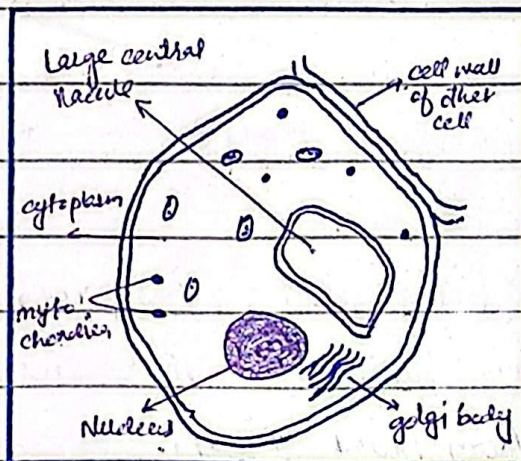
them rigid in shape, and chloroplast, for the phenomenon of producing food, while animal cells lack both as animal are dependent for food and do not have

photo synthesis. The primary difference between both

cells is: cell wall, shape, presense of chloroplast, function of vacuole, mode of nutrition production and storage of food energy. Following chart explains the difference aptly.



Animal Cell



Plant Cell

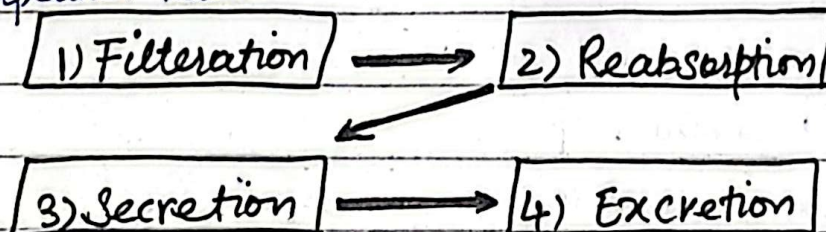
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Difference of Features	Plant cells	Animal cells
Cell wall	Present	Absent
Shape	Fixed and shaped	Irregular and ^{shaped} un
Chloroplast	Present for photosynthesis	Absent (dependent on other for food)
Vacuoles	Large central	Small temporary
Mode of nutrients	Make their own food	depends on others for food
Storage of energy	Starch	Glycogen

b) How urine formation takes place in human body

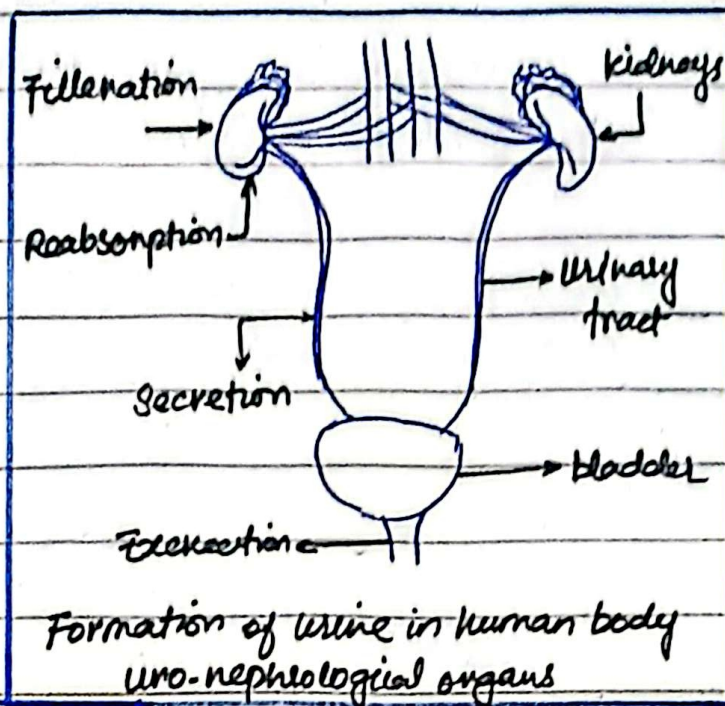
Urine formation and exit from human body is the vital function that pulls out wastes from body, maintains electrolytes and water in body by involving kidneys urinary tract and bladder which is known as nephrology.

This process takes place in four steps which are explained below:



1) Filtration This process takes place in kidneys in which small molecules and water remove from blood stream.

2) Reabsorption Useful substances like salt, water and balanced electrolytes returns to the blood stream by kidneys and pushes the waste fluids to urinary tract.



3) Secretion Secretion removes toxins of the body and takes place in urinary tracts by adding ionized substances from body makes waste fluid known as urine.

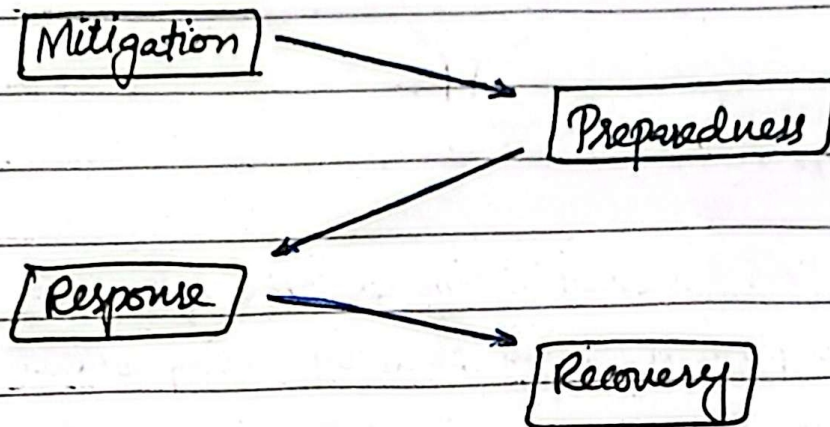
4) Excretion Excretion is the last process through which the urine exits the body. Excretion is a duct, which is connected to the bladder and the human genitals for the removal of waste fluid from body.

(4)

a) What is disaster risk management (DRM). weaknesses of DRM in Pakistan.

Disaster risk management is the organization or management of resources to deal with all humanitarian aspects and crisis caused by natural hazards like Earthquakes, floods, and Tsunamis.

Disaster Risk is managed in the following way.



Mitigation: This is pre-disaster land management that involves research, risk analysis, training, building codes and public awareness. Training involves civil defense and (boy scouts, girls guides)

Preparedness: This process involves early warning systems, trainings, resources management and plans during and post disaster.

Response This process is occurred after the disaster. Immediate response towards life saving, giving shelter and foods and damage repairing.

Recovery Recovery is the last segment of the disaster risk management which includes restoration, constructions and long term sustainability.

DRM needs heavy resource allocation that is why weak economies and third world states suffers. Pakistan is one of them.

Weaknesses of DRM in Pakistan

Weaknesses of DRM in Pakistan are following:

i) Reactive approach

ii) lack of funds

iii) Bureaucratic hurdles

iv) Community awareness is very poor

v) Inter-agency coordination is equal to zero

d) Define Ceramics and give their types and applications

A ceramics is the non-metallic inorganic materials made of clay and later hardened by heating to give shapes. It has high melting points. Wash basins, spark plugs and bricks are the primary examples of the ceramics, They can't be burn or reshaped once the desired shape is given to them.

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Applications of ceramics

Following are the applications of the ceramics:

i) Aerospace industry: i) Space rockets formation

ii) Planes and jets materials

iii) Space Stations

ii) Auto mobile industry: i) Spark plugs

ii) Ring pistons of engines

iii) Thermostats

iii) Construction industries: i) Bricks

ii) Wash Basins, pipes

iii) Tiles

iv) Electronics industry: i) insulators

ii) Resistors

iii) Capacitors.

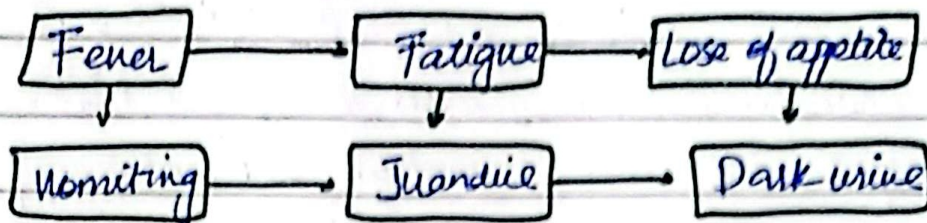
Above mentioned materials are the primary applications of the ceramics in daily life.

Q NO 3

a) What is Hepatitis? Give its symptoms, causes and preventive measures.

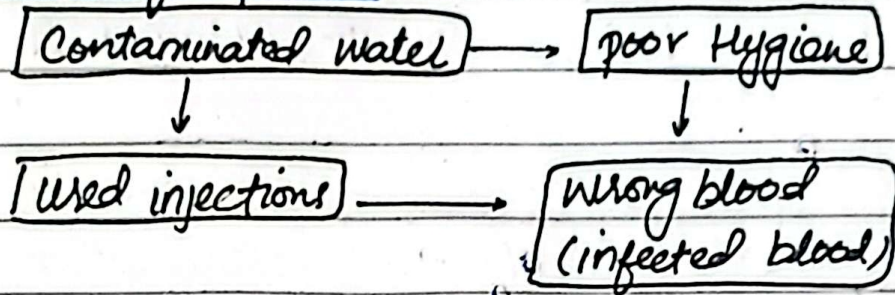
Hepatitis is the inflammation of liver, caused by viral infections. Some anthropogenic causes are also there that causes the hepatitis which include: Drugs, Alcohol and toxins.

Syptoms of Hepatitis.



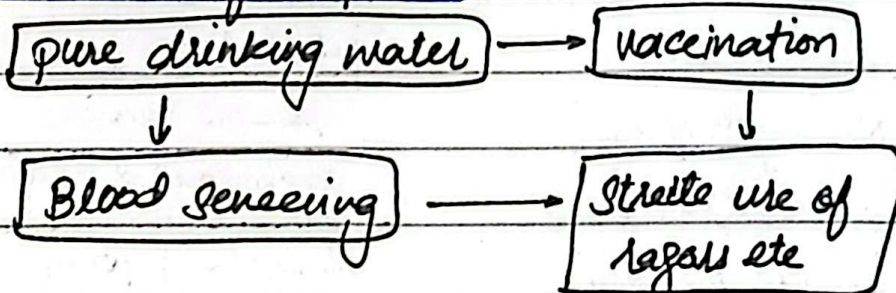
Fever, body pain, weakness, loss of appetite, vomiting, which cause dehydration, jaundice, which happens to all liver related diseases and dark urine, primarily due to the dehydration are the symptoms of Hepatitis.

Causes of Hepatitis



poor hygiene, contaminated water and foods are the primary causes of Hepatitis. Similarly, use medical equipments and infected blood match are secondary ones.

Preventions of Hepatitis

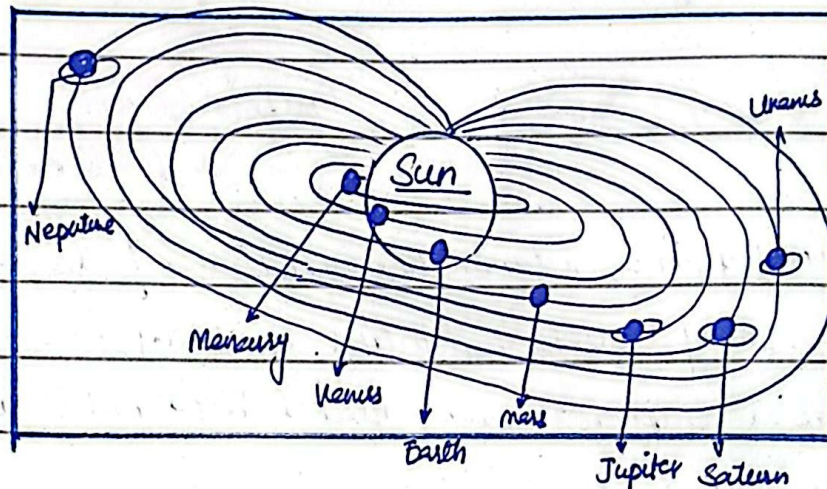


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b) Explain Solar system.

Solar system consists of star (the sun) planets, dwarf planets, meteors, asteroids and other objects. The sun is the central point and energy center of solar system with 99% of the solar system's mass. It came into being after the collapse of the solar nebula some 4.7 billions years ago.

There are eight planets in solar system: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune. Before 2006, the planet Pluto was also considered as the part of the solar system but IAU (International Astronomical union) declared it as dwarf planet.



Terrestrial planets

Close to Sun

Rocky surface

Slow rotation

Include Mercury
Venus, Earth, Mars

Few moons

Jovian planets

Not close to Sun

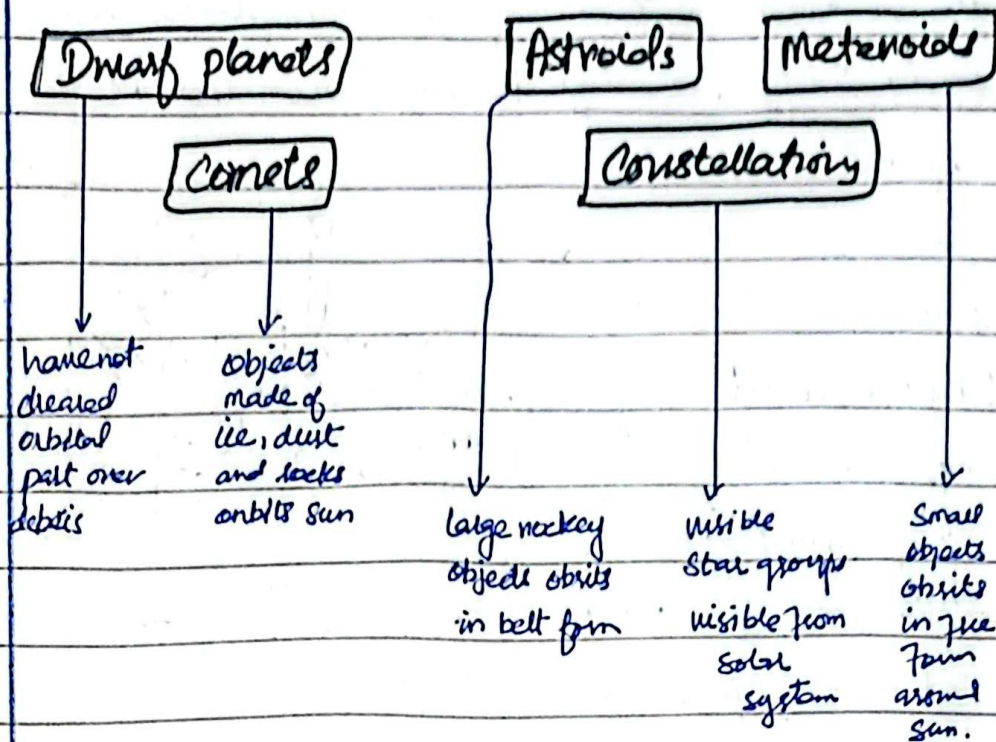
Gaseous surface

High speed of rotation

Include Jupiter,
Saturn, Uranus, Neptune

Many moons

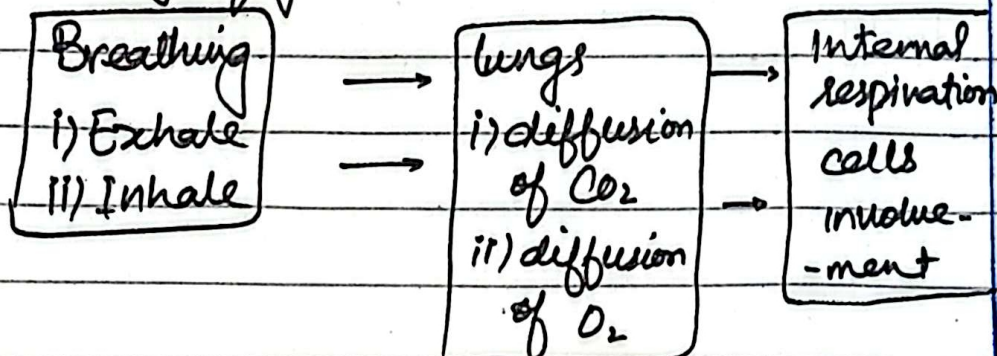
Other objects inside solar system



c) How Gaseous exchange takes place in human body?

The exchange of gas in human body are primarily occurs in between Oxygen (O_2) and (CO_2) Carbon dioxide through respiratory system ~~called~~ including lungs, nasal and buccal cavities. Blood and Bloods cells are mediums that carries gases outside and inside.

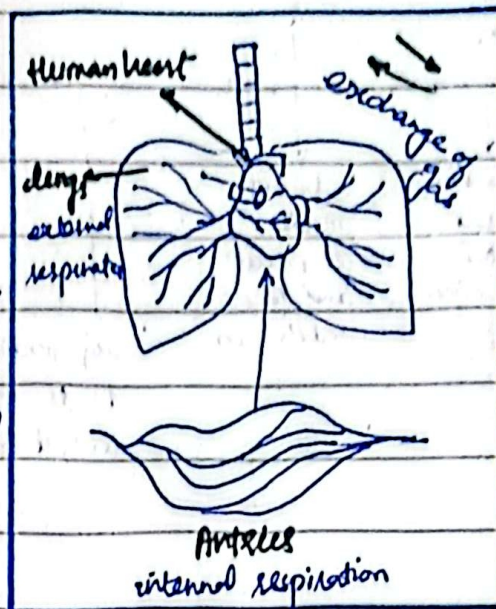
Exchange of gases



i) Breathing Human body inhale and exhale O_2 and CO_2 respectively from environment and body. Oxygen is inhaled and Carbon dioxide exhaled.

ii) Lungs (External respiration)

Oxygen absorb by lungs and sends to the heart for pumping through out the body. Blood and blood cells export the oxygen from heart to



body. The same phenomenon Respiratory System for the Carbon dioxide.

iii) Arteries, bloods and cells (internal respiration)

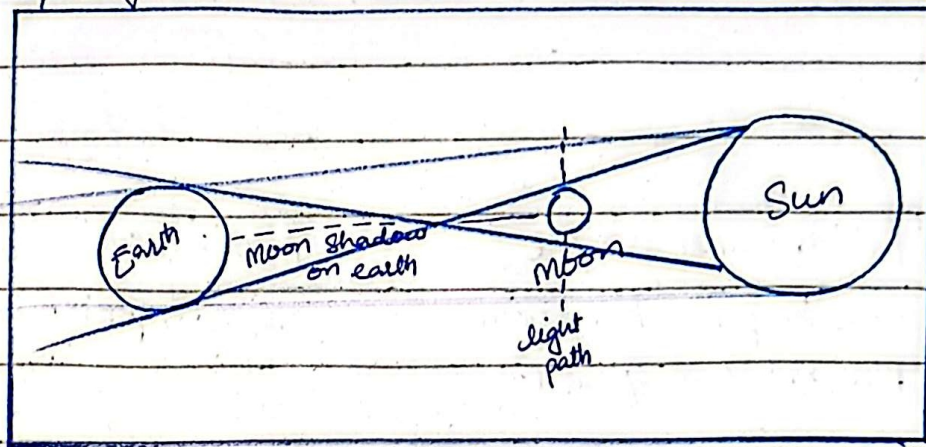
This happens inside the blood stream where O_2 is absorbed by cells and CO_2 is put out by the cell to blood stream.

Through this system the gases are exchanged in the human body. Breathing, external respiration and internal respiration take place in the human body.

d) Define solar and lunar eclipse and explain their types.

Solar and lunar eclipses are the natural physical phenomena. They are observed by human beings full or partial depends on the nature of eclipses.

Solar eclipse Solar eclipse takes place when the earth aligned in line between the Sun and the moon. Moon hinders the light path of earth, coming from the Sun and resulted in darkness at day time and Sun becomes invisible, partially or completely.

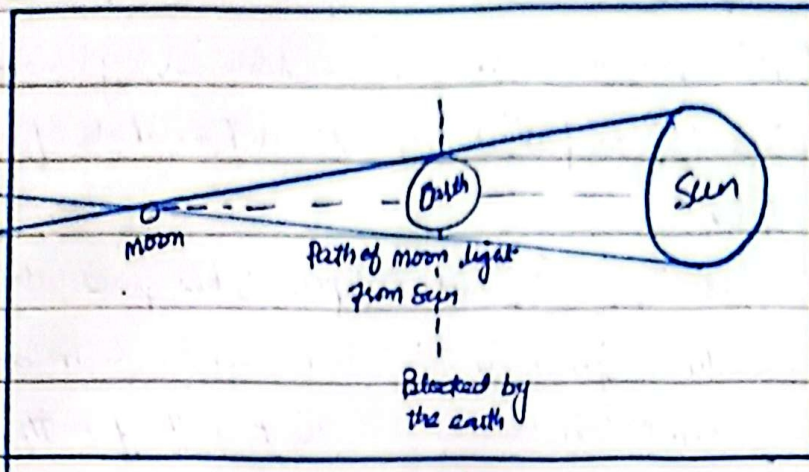


Solar eclipse

Solar eclipse could be complete, partial and can happen more than one time per year.

Lunar eclipse: Lunar eclipse takes place when the earth aligned in line with moon and the Sun. The earth comes between Sun and moon and results in the complete or partial lunar eclipse. The shadow of earth blocks the path of light from Sun to moon.

and resulted in complete invisibility of moon from the Earth, if complete. In partial, blood moon takes place.



Lunar eclipse

Solar eclipse also can be partial and complete and can happen more than one time per year.

Types of Solar and lunar eclipse

Lunar eclipse

Solar eclipse

Partial lunar eclipse

visible in penumbra region
Partial blockage of light

Partial solar eclipse

visible in penumbra region, partial blockage of light

Complete lunar eclipse

visible in umbra region
complete ~~day~~ time darkness
night

Complete solar eclipse

visible in umbra region
complete day time
darkness