

DAY: _____

DATE: _____

⑤ No 2

Plant cell

Animal cell

① cell wall is present

① cell wall is absent.

② plant cell has no centrioles

② Animal cells have centrioles

③ It has plastids

③ Animal cells don't have plastids

④ Division is done by pollination

④ Division is done by cell division

⑤ Reserved food is starch

⑤ reserved food is glycogen

⑥ Nucleus is moved towards periphery due to vacuole at center.

⑥ It has nucleus at center.

⑦ It does not have cilia

⑦ It has cilia

⑧ Cytoplasm is present at periphery.

⑧ It has central cytoplasm

⑨ It has large vacuoles

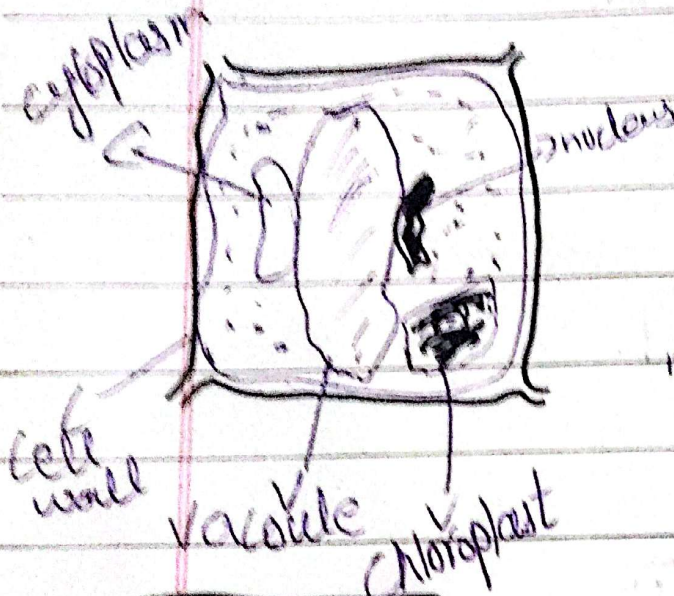
⑨ It consists of small vacuoles

⑩ plant cells are non-living.

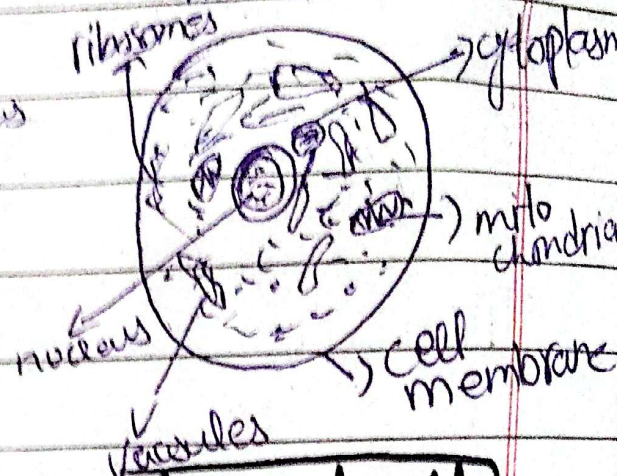
⑪ They are smaller in size.

⑩ Animal cells are living.

⑪ Animal cells are large in size.



Plant cells



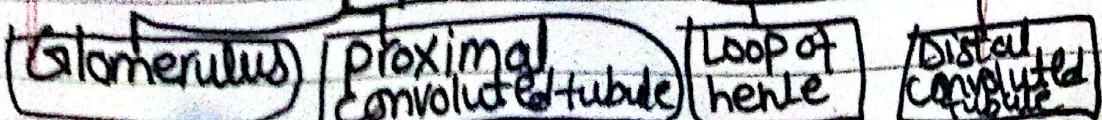
Animal cell

(b)

~~the~~ Urine formation in human body

urine formation takes place in nephron which is basic structural and functional unit of kidney

Nephron



Glomerulus It is mesh which filters blood. It has basement membrane which separates it from Bowman's capsule. In it 70% of water and ~~and~~ ~~protein~~ is filtered here and then waste pass to proximal convoluted tubule. Glomerulus plays important role in electrolyte balance.

Proximal convoluted tubule

- It has peritubular capillaries
- micro villi which increases area for reabsorption
- Here solute is readded to increase concentration of water in capillaries
- proximal convoluted tubule also maintains electrolyte with help of osmosis.

Loop of Henle

- It involve in concentrating salt to urine

- It creates solute environment in medulla for urine excretion.

Ascending loop of henle

Descending loop of henle

passive involves it concentrates salts during absorption

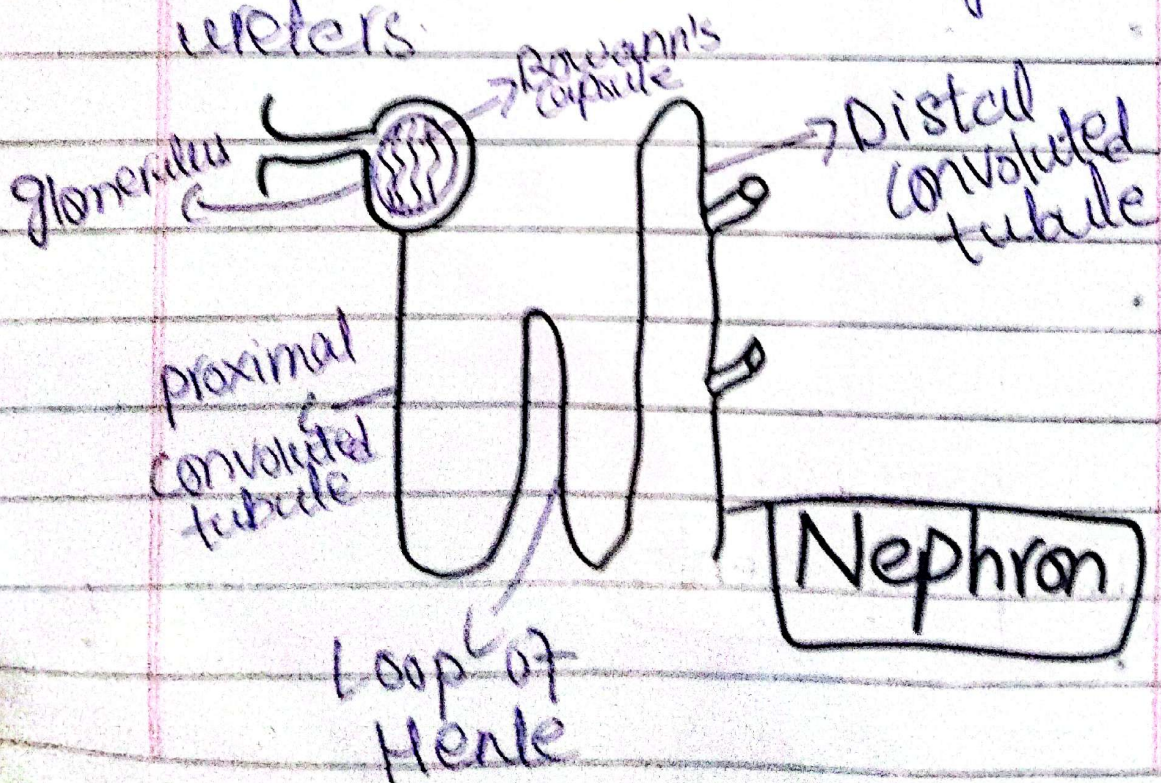
water moves to descending loop which forms concentrated urine

distal convoluted tubule

- Responsible for pH of urine and blood

Collecting duct

- It is responsible for ultrafiltration of urine before entering ureters.



C - DRM and weakness in DRM in Pakistan

DRM DRM stands for disaster risk management. It is basically a method in which preventive measures are taken by governments to mitigate effects of upcoming disaster.

weakness DRM in Pakistan

① **Lack of technology:** Pakistan has no advance technology such as early warning systems to detect upcoming disasters.

- India, China evacuated risky areas for floods in 2025 by using advance technology.

② **Poor coordination among federal and provincial agencies.**

There is no coordination between national disaster management authority and provincial disaster

risk agencies.

- For example during 2025 floods PDMA (Punjab) and NDMA gave different details of damage.

③ Pakistan has no skilled staff

Pakistan has no trained staff to deal with advance technology which I can deal with risks of disasters.

- Japan does training of students to deal with climate change in classes.

④ Lack of research: According to down Pakistan water and agriculture council has many unfilled posts which make councils unactive to play role to deal with risk disaster management.

⑤ No resilient plan for risk disaster management
Pakistan there is no rules

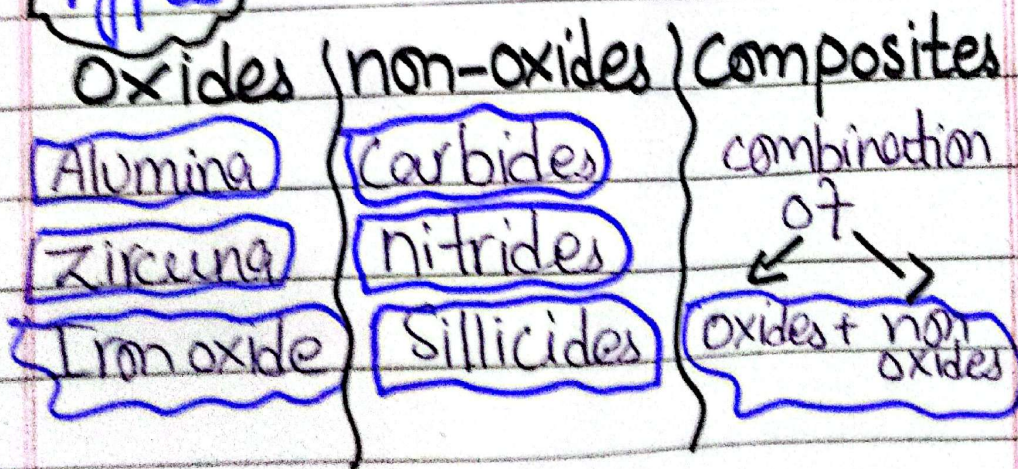
and laws for construction as well buildings are being constructed at river sites.

- In recent 2025 floods park view in Lahore which built at ravi was badly affected.

(d)

~~ceramics~~ **Ceramics** ceramics are inorganic non-metallic compound which are formed by clay which is hardened by heating to a high temperature.

Types



Applications of ceramics

Aerospace: In it ceramics are used to produce ^{space} shuttle ~~and~~ and space stations and rockets.

Medical In it ceramic is used for making dental implants and bone implants.

Automotive industry
~~Refractory~~ ceramics are used for filters, converters, catalysts.

Consumer Use

~~Refractory~~: Ceramics are used for ~~pottery~~ pottery and dinnerware.

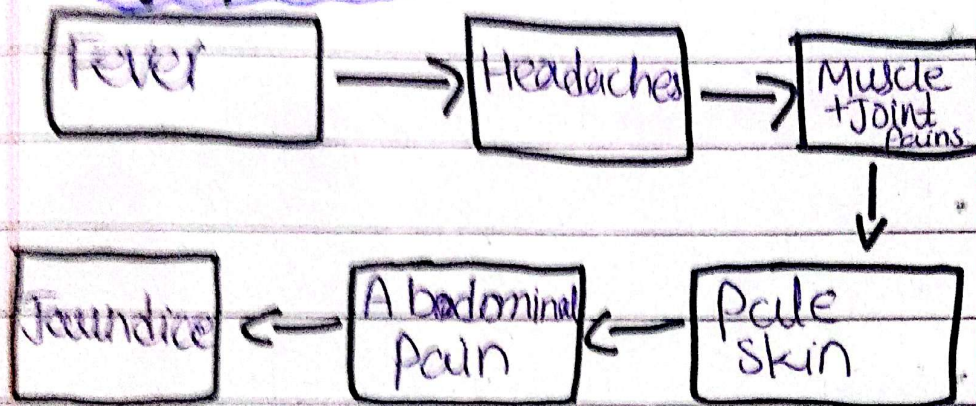
Refractory use ceramic use for glass, steel.

Q No 3

(a)

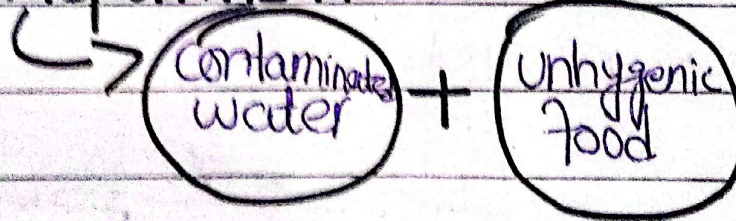
Hepatitis It is basically the inflammation of liver. And liver gets infected.

Symptoms

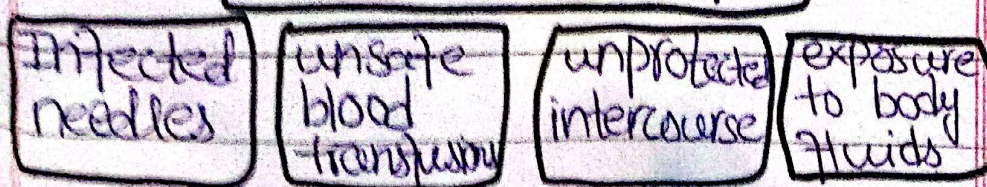


Causes of Hepatitis

→ Hepatitis A



→ Hepatitis B + Hepatitis C



preventive Measure

- proper sanitation is required
- proper hygiene should be attained
- Hepatitis A can be recovered with rest
- Hospital waste infected needles should discard properly.
- protected sexual activities must be ensured.
- proper screening before transfusion is required
- vaccination should be done

(b)

Solar system consists of following planets → group of planets
→ satellites → Asteroids → meteoroids → comet

All orbit around sun

Sun • It is largest object of solar system. It has photosphere, chromosphere, radiation zone and convection zone and corona

DATE: _____
• Temperature is 15 million °F

Planets Mercury, Venus, Earth, Jupiter, Mars, Saturn, Uranus and Neptune

Terrestrial Planets

• close to sun

• Rocky

Jovian Planets

• away from sun

• gaseous

Dwarf Planets They are small in size and less gravitational pull

Ceres, Haumea, Make Make

Sattelites ^{moon} ~~is~~ is a satellite

Asteroids series of tiny small fragments of planets present between Mars and Jupiter

Comets Revolve around sun made up of frozen gases

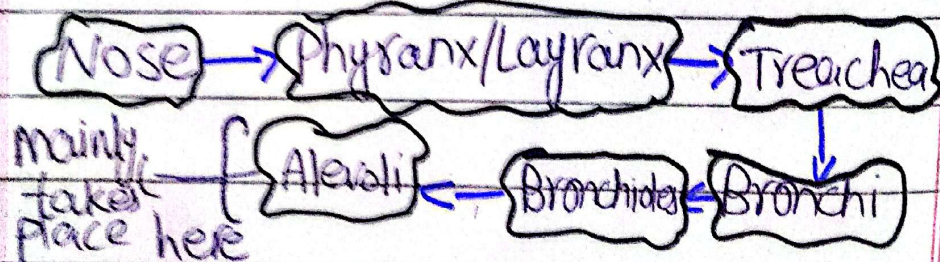
DATE: _____
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Meteoroids: originate from
comet + Asteroids

Basically debris orbit
around sun

(C).

Gaseous Exchange It is
defined as transfer of gases
across the body. Basically
involve removal of carbon
dioxide (CO_2) from body and
entry of oxygen in body.

Organs involved in
Gaseous Exchange



What involve in gaseous
exchange

Exhalation

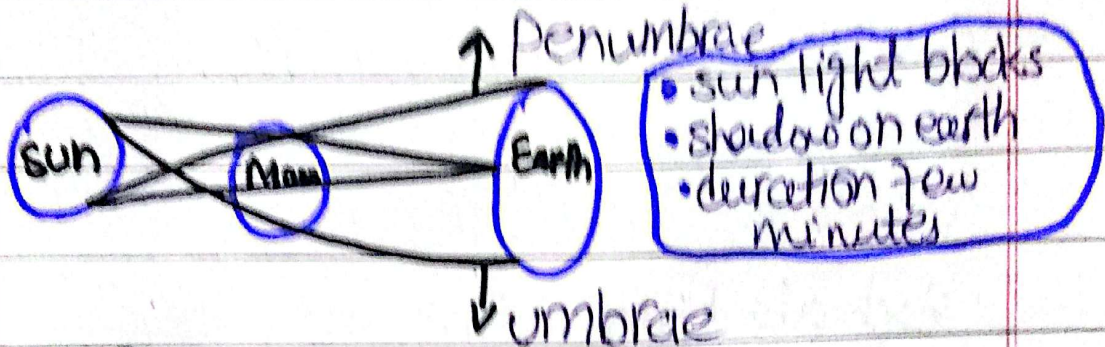
Inhalation

Inhalation during inhalation diaphragm contracts blood arrives lungs it has carbon dioxide $\Rightarrow$ then alveoli has low level of carbon dioxide due to concentration gradient excessive carbon dioxide (CO_2) is removed from blood (now blood has more oxygen)

Exhalation Similarly during exhalation diaphragm relaxes now blood has low levels of carbon dioxide, now alveoli has more levels of carbon dioxide due to concentration gradient blood gets more carbon dioxide and air will exhaled.

(d)

solar eclipse usually moon orbits around earth but in solar eclipse moon comes between sun and earth



Types

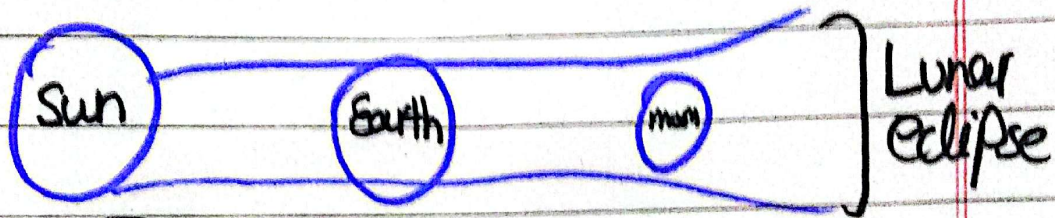
Total solar eclipse In it moon covers whole sun

partial solar eclipse In it earth moon and sun are in straight line and moon partially covers sun

Annular eclipse moon smaller than sun and moon passes centrally through central disk of sun.

Lunar eclipse usually earth and moon orbit around sun but in lunar eclipse

- earth comes between moon and sun
- There is shadow at moon
- duration of few hours



Types

Penumbrae when a part of moon passes through penumbrae.

Partial lunar eclipse: when a part of moon passes through umbrae and it is partially obscured.

Total lunar eclipse

when whole moon passes through umbrae and is fully obscured