(Section-1)

(Q#2-a)

Structure of Universe on Big bang theory:

Big bang theory: Before the creation of universe, it was a huge ball of gases, enclosed in an extremely small object known as singularity. Inside that ball was extreme temperature & pressure, after bursting, it created big bang & dispersed the temperature in all peripheery.

Structure of universe: As obvious from the thermodynamic law that things get cold when spreaded. Same was the case with universe. Upon spreading its temperature decreases

and eventually give rise to the present form of the universe.

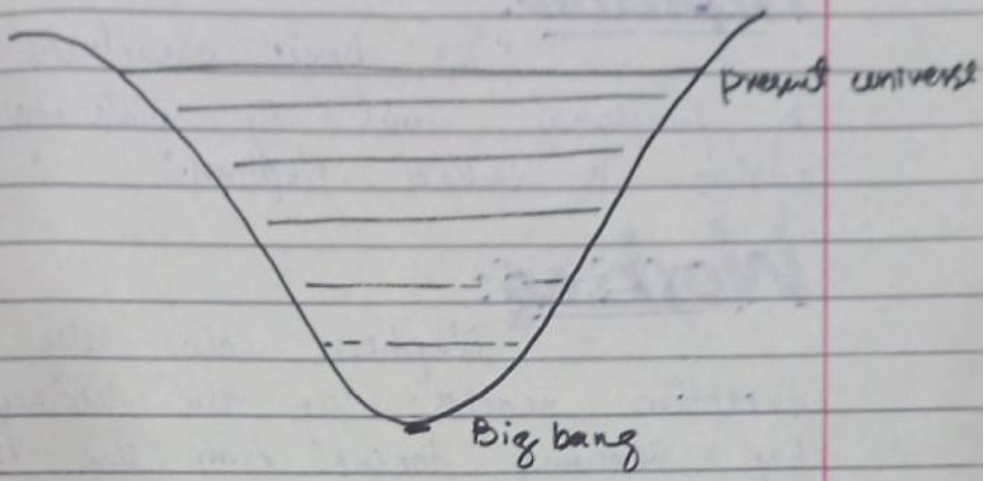
Description:

When energy started spreading it cooled down & start conversion into matter. First of all protons & neutron were made, then Helium & Hydrogen nucleii, when temperature got cold enough then nucleii got the capacity to attract e^- & form 1st element of the universe in the form of Hydrogen & Helium. These element provide base for all existing elements of the universe. The universe is not static but expanding at a continuous rate as given in Quraan.

"We have created this world & indeed we are expanding [it]."

— Surah Rahman

According to big bang the structure of universe is clearly depicted by **Red shift**. "A phenomena which explains the way of objects away from earth.

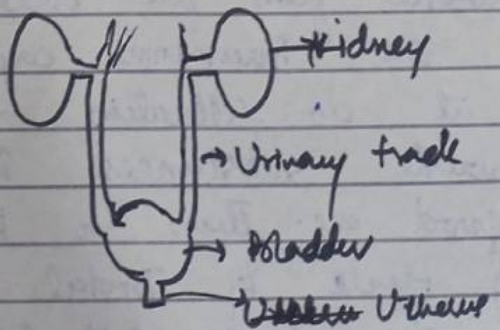


Universe is expanding continuously. Big bang happen 13.7 billion years ago.

(Q2-b)

Urinary System:

"The excretion system of the body consisting of kidney, urinary tract, urinary bladder & uthers is known as urinary system."

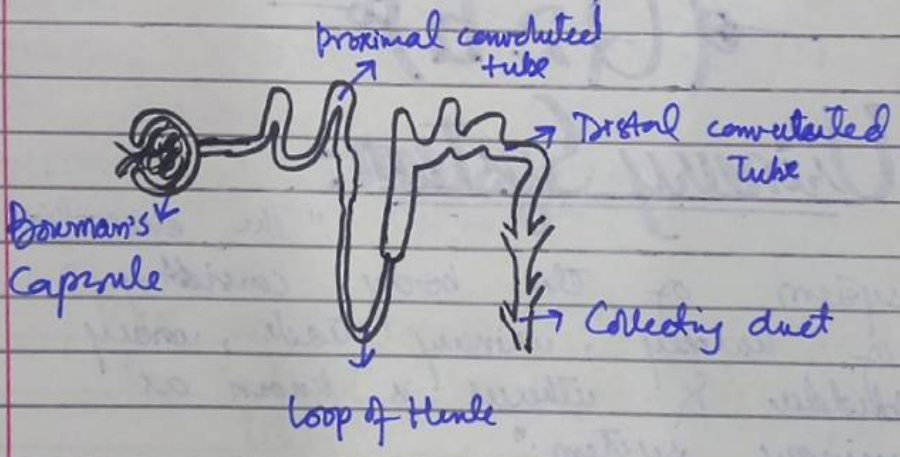


Nephron:

"The basic structural & functional unit of excretory system is called Nephron."

Working:

Nephron do the excretion process of the kidney by removing toxins from the body & absorbing useful things from it. Nephron have four parts. Bowmanns tube, Loop of Henle, Proximal convoluted tubule & Distal convoluted tubule.



The waste from the overall body entered the Bowmanns capsule where it do filteration removing the waste substances & absorbing the good one. Then in Proximal Loop of Henle & Distal convoluted tube the same filteration phenemena

happen, separating waste from useful ingredients. The useful ingredients are absorbed into the walls of diff part of the Nephron, directed to blood streams & the toxins are collected into the collecting duct, which is excreted eventually from human body.

:——★——:

(2-c)

Unbalanced Diet:

"The combination of food in which all 5 group are not properly included is known as un-balanced diet. The 5 important groups are Milk, pulses, green vegetables, vitamis & minerals. An unbalanced diet some time refer to un-balanced inclusion of useful indgredients too, eg: the diet rich of fats & carbohydrate is

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turned as un-balanced.

Effects of Unbalanced Diet on Healthy Living:

When human body don't receive the balance diet that is required then it creates several effects leading to diseases & conditions like malnutrition. Malnutrition is the condition in which a person either get low-level of useful ingredients or high-level both leading to diseases. The diseases caused by unappropriate food habits lead to Kwashiker & Marasmus while the overuse or overeating habbit lead to Obesity. A person with unhealthy or unbalanced diet will be unable to perform his daily works. As evident from the Children of Africa suffering from Kwashiker & Marasmus have thin body, big head & unable to walk properly. In the same way an obese person can't do his/her normal work. & often suffer from many other diseases.

(2-d)

Structure & function of Cell-wall:

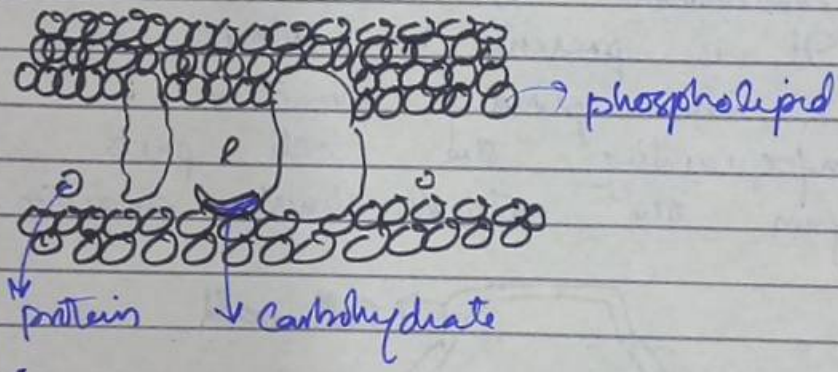
"The outermost layer of plants & other eukaryotic organisms which protect the internal cell organells from the outside environment is known as cell wall."
It is present in plant cell & its primary function is safeguarding the cell parts from the external harsh condition.

Cell wall is made up of cellulose in plant tissue.

Structure & fn of Cell membrane:

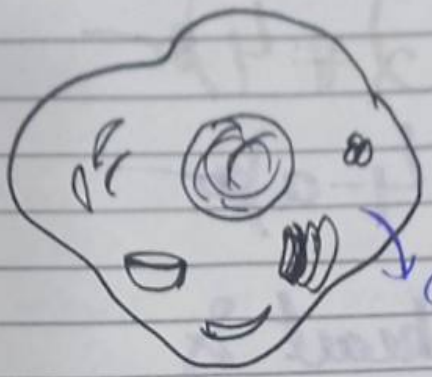
Also known as the plasma membrane, is the outer layer of animal

cell is called membrane in plant cells. It is mainly composed of carbohydrates, phospholipids & protein. Its main function is the protection along with selective permeability of ingredients into & out of the cell. Pagocytosis & Pinocytosis are the process of engulfing solid & water by the cell membrane.



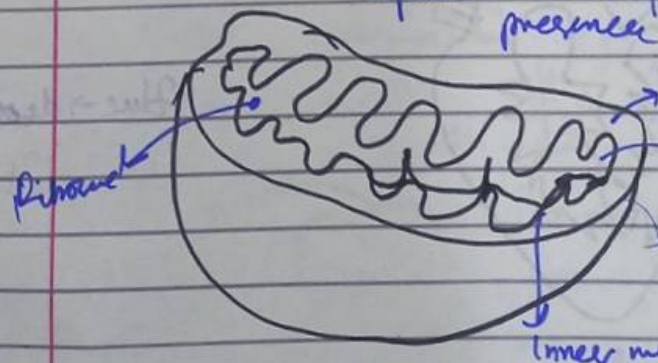
Structure & fn of cytoplasm:

Cyto plasm is the liquid part of the cell spreaded all over the cell. Due to this the cell organells can float easily. It provide the base for the organells. Its main function giving an enviroment to cell organells.



Structure & fn of Mitochondria:-

Mitrochondia also known as power house of the cell is the structure which provide energy in the form of ATP. Along with energy it do signalling, protein synthesis etc. When Mitrochondia give ATP to cell then it is converted ADP & cell got the energy to work & perform smoothly & Mitrochondia restore that energy converting ADP to ATP & the cycle goes on again & again. It can replicate itself due to the presence of DNA.

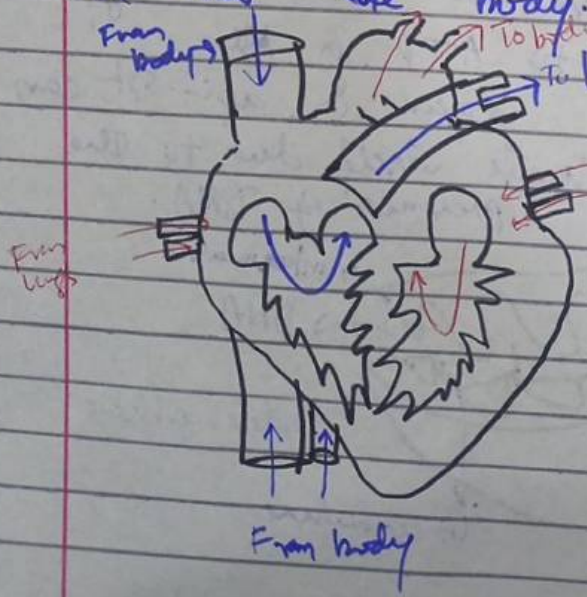


(Q#4)

(4-a)

Role of heart & blood vessels in Circulation:

Heart & blood vessels carries the blood from & to the body parts. Blood vessels collected blood from upper & lower part of the body & bring it to heart through veins. Heart take that de-oxygenated blood transport it to lung for oxygenation & return it to arteries which through capillaries distribute it all over the body.

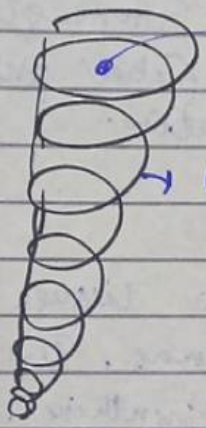


Blue → deoxygenated
Red → Oxygenated

~~(4-b)~~

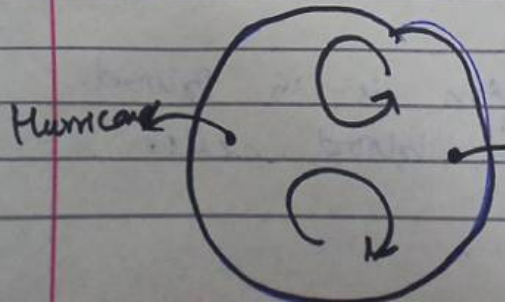
Cyclone:

A natural disaster in which there is high pressure at center & lower at outer surface. The pressure gradient & allied dif substances causing destructions



Formation of Cyclone:

When sun heats the earth unequally then an area of low air pressure is created. Equator get more heat than poles thus creating a pressure gradient w/h resulted in the formation of cyclone. In the north it move A.C.W while in south it moves C.W



In East it is called Typhoon & in west known as Hurricane

(4-c)

Fns of Carbohydrate: It gives instant energy to human cell. The day to day work a human do is due to carbohydrate. Store glucose. Carbohydrate rich in fiber protect a human from constipation.

Protein: It build new tissues & enzymes along with hormones. The major fn of protein is DNA synthesis. It form nail & hair of living.

Fats: Lipid are found in cell release & helpful in the solubility of ADEK vitamin.

Calcium: It is mainly found in bone & help strengthen the bone.

Iron: Its main fn is in blood. provide oxygen to blood cells.

(4-d)

Remote Sensing for environmental purposes:

Remote sensing could be used for environmental purpose as it provide Live images & location. From satellites one can find any disaster arising & change in pattern & that early information will automatically help in the environment creating policies.