

Part - II

Section - A

Q. NO. 2

(a)

Understanding the Universe

Universe refers to everything around us. It is the combination of time, space and content.

Structure of universe and Big Bang

Since the inception of

human nationalization numerous theories have been represented by scholars, thinkers and scientists. The most accepted one is big bang theory.

Overview of the Big Bang theory

The Big Bang theory was represented by **Georges Lemaitre** who was a Belgian Priest, scholar and scientist. Big Bang theory claims that the universe was 13.2 years ago closed like in bubble known as Singularity. Suddenly, the singularity point which was hottest and denser blasted and the time, galaxies, atom and the universe came into existence.

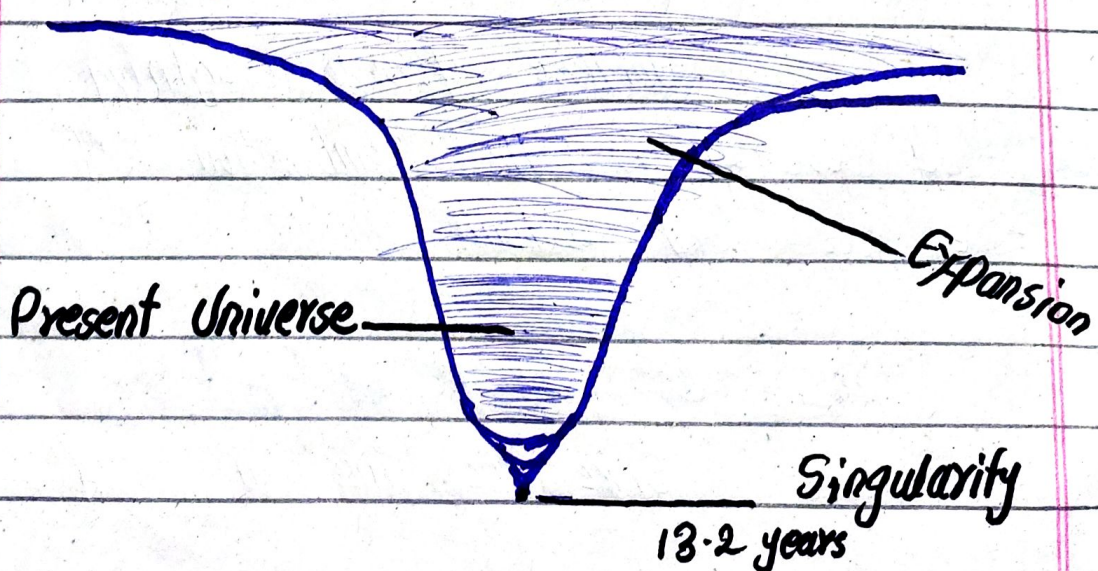


Figure 0.1 the Structure of the universe

(a)

Definition of Urinary system

Urinary system refers to the formation and excretion of Urine through processes known as filtration, re-absorption and excretion.

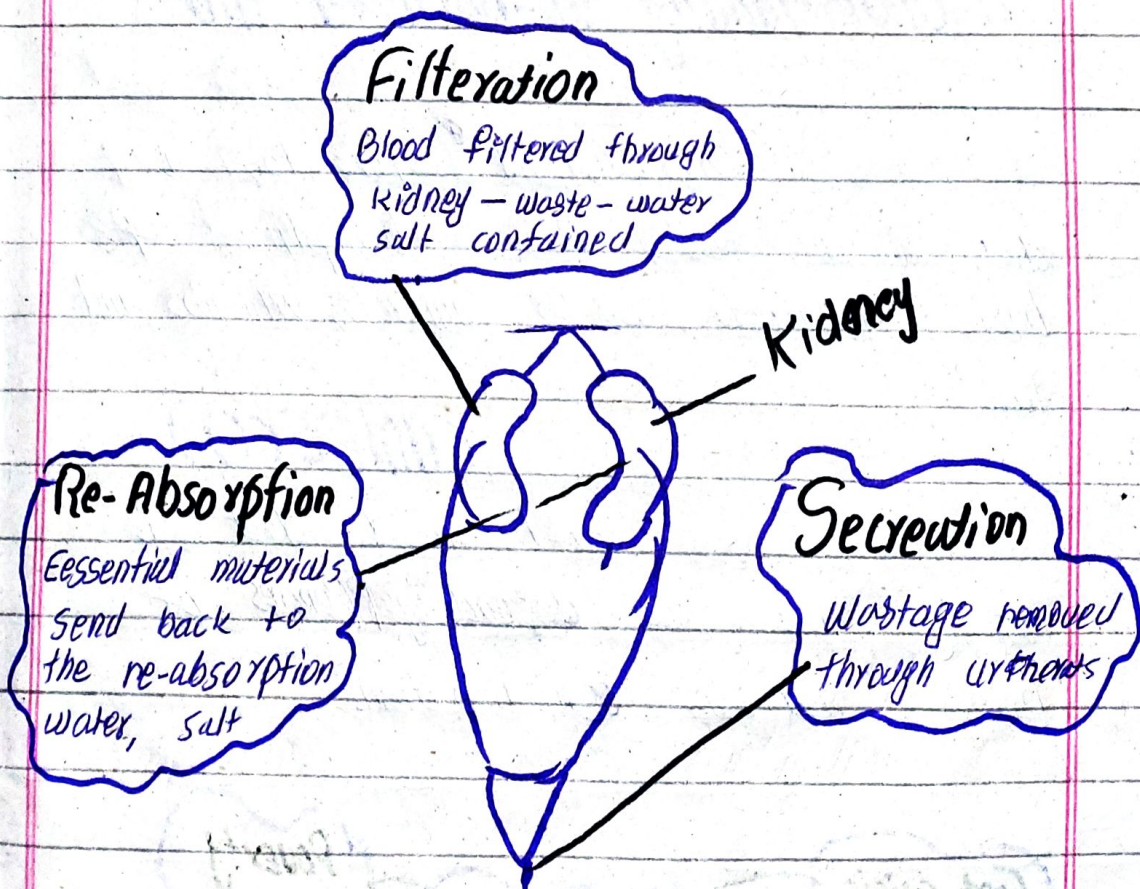


Figure 0.2 Structure of Urinary System

Working of Nephron

Kidneys contains millions of nephrons. It helps the process of formation of urine, filtration of blood, water, salt and re-absorption of the contained valuable materials.

(c)

Understanding un-balanced diet

"Un-balanced" refers to a diet which lacks the absorption of basic nutrients such as minerals, vitamins and food."

(UNESCO)

So, un-balanced diet is nothing but the lacking of proper nutrient consumption.

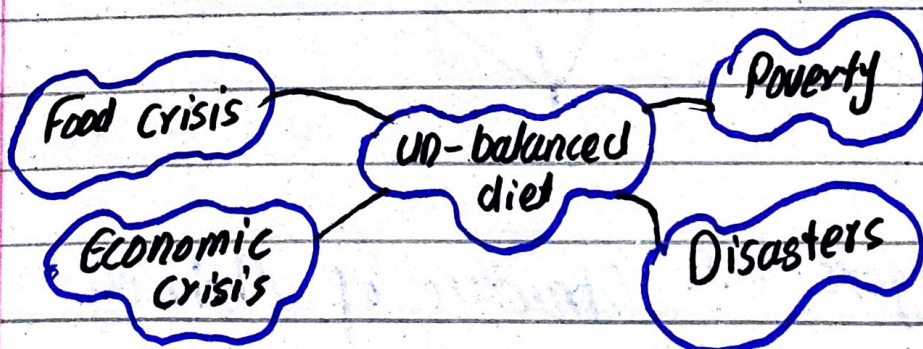


Figure 0.3 Flowchart causes of un-balanced diet

Affects of the un-balanced diet on healthy living:

(1) Enhances mental health issues

Un-balanced diet such as lack of intake of carbohydrate, lipids and minerals weaken memory and lead to long term risks to mental health.

(2) Laziness and weakness

Lack of intake of the proteins, minerals, fat and carbohydrate cause laziness and weakness.

(3) vulnerability to diseases

Un-balanced diet makes a body vulnerable to diseases due to weak immune systems. In this regard, a person may fall ill due to internal resistance of diseases.

(d)

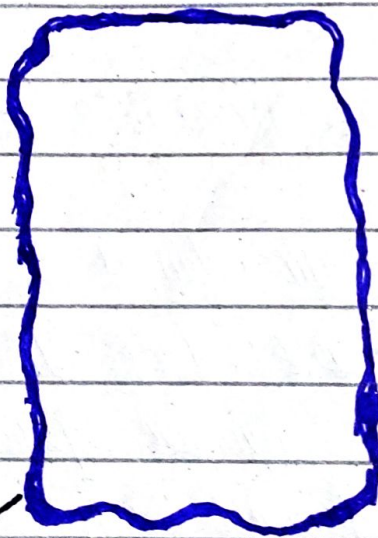
Cell

Cell is the basic unit of life. It was taken from the Greek word cellula which means room.

Parts of cell

1. Cell wall

Cell wall is the outer most layer in a cell. It is existing in plant cell rather than animal ones.



Cell wall

Figure 0.4 Cell wall structure

Functions of cell wall

It protects the cell from outer resistance. Cell wall also supports the overall functioning of the cell.

2. Cell membrane

Cell membrane is the layer after the cell wall in plant cells. It is the upper layer in animal cell.

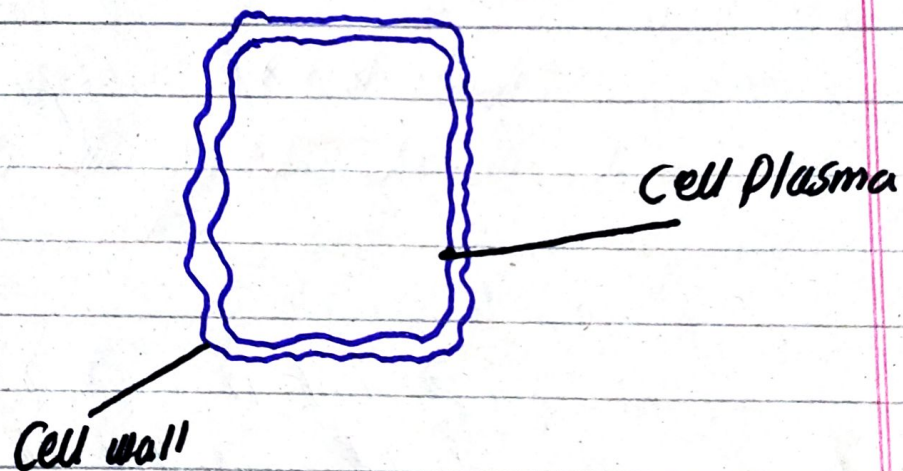


Figure 0.5 Structure of cell wall

Functions

Cell membrane maintains the overall balance of a cell. It enhances the production of energy too.

3. Cytoplasm

Cytoplasm is a liquid filled region in cell. It contains around 90% of water and 10% of other nutrients.

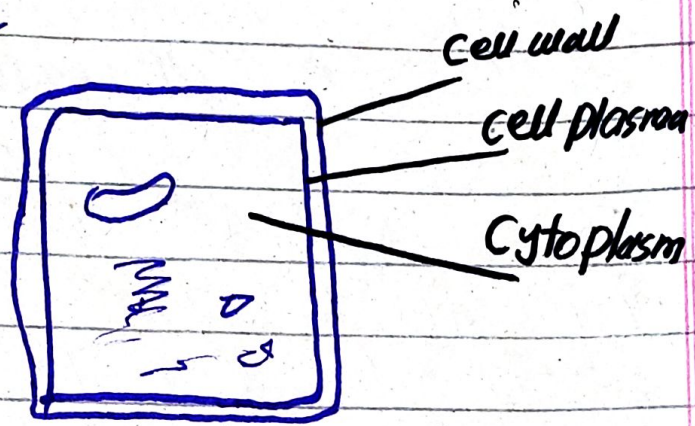


Figure 0.6 Structure of Cytoplasm

Functions

Cytoplasm is a store house of water. It generates energy and synthesis.

4. Mitochondria

Mitochondria is located inside the cell, B like shape.

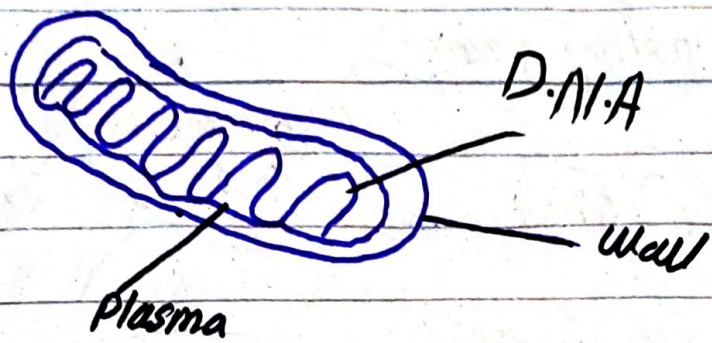


Figure 0.7 the structure of mitochondria

Functions

Mitochondria enhances metabolism in cell. Protects tissues and creates energy.

Q. NO. 3

(a)

Overview of Global warming

"Global warming refers to the warming/ heating of the earth".

(WMO)

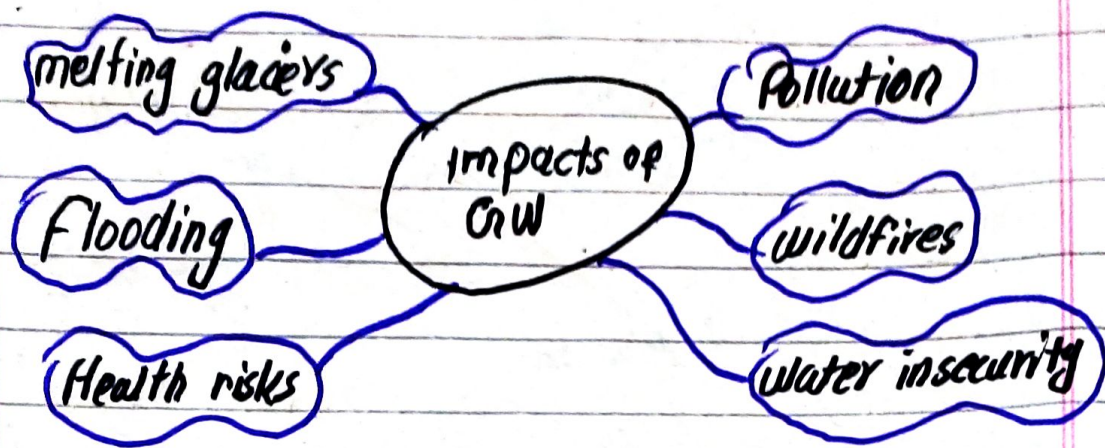


Figure 0.8 impacts of GW

Recommendations to overcome Global Warming

1. Shifting into clean energy

Every treaty of environment protection has proposed the world to adopt clean energy. Nations should adopt renewable energy resources such as wind, hydro, nuclear, solar and thermal. Renewable energy not only reduces global warming but also it protects forests, oceans and natural resources.

(2.) Honouring international treaties

Nations have signed numerous treaties like Kyoto Protocol, COPs meetings, Montreal Agreement and Ocean Protections but none implements the objectives of the ~~of~~ pacts. Nations have to implement and honour the treaties to prevent global warming.

(3) Re-forestation

Forests are the lungs of the earth. Huge de-forestation has pushed the animals, humans and insects toward risks. There should be massive trees tsunami plantation. Forests absorb CO_2 and produce 80% oxygen annually maintaining the temperature of the world.

(4) Public awareness

Governments should promote awareness among people through formal schooling, seminars and broadcast about

the risks associated with fossil fuel
and they should be encouraged
to shift into renewable energy
resources.

(b)

Defining Ceramics

Ceramics are inorganic
solids made of clay and harden with
high temperature heating. The example
of ceramics include glasses plates
and ~~lighting~~ electronic buttons.

Properties of Ceramics

Ceramics are strong, resistant
to chemical reactions. They are
also durable and survive through
highest heating and temperature.

Applications of Ceramics

Ceramics are being

used across various sectors. They are used in the form of glasses, plates, cups and jugs at homes. Ceramics have also used in space or aircrafts formations worldwide.

(c)

Optic Fibers

Optic fiber refers to thin glass technology like human hair. It carries information in the form of digital or light signals over long distances.

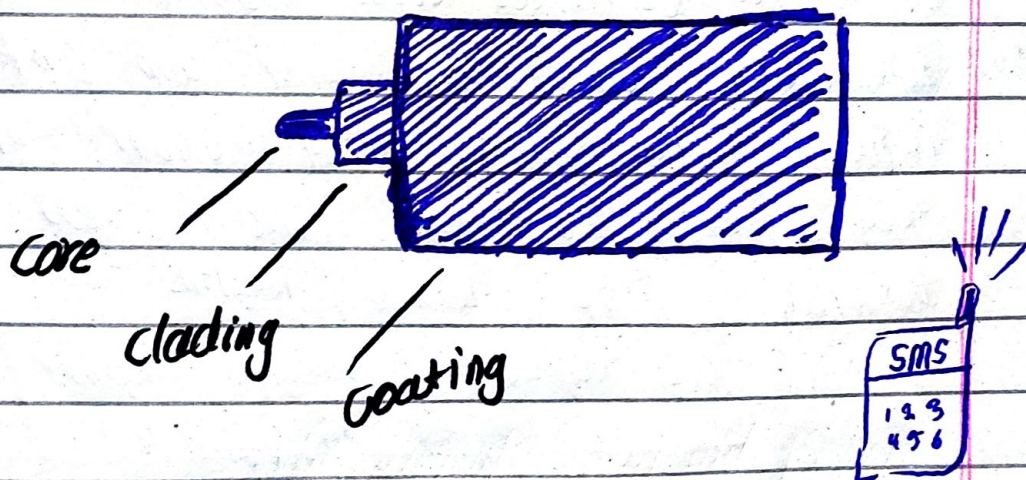


Figure 0.4 Structure of Optic Fibers

Working of optic fibers & mobile

Light is injected through LED into optic fibers. Through confined injection of light — signals have carried out in the form of light. Thus, digital light later converts into signal to mobile users.

(d)

Defining the concepts

(1) Food Additives

Food Additives refer to the procession of adding coloring, flavoring and testing. These above methods are intentionally carried out with aim of improving the quality and colour of food. Food Additives are less harmful to human health.

(2) Food Preservatives

Food Preservatives refer

to protecting the food from spoilage especially from bacterial infections.

Food preservatives include numerous methods such as salting, freezing, drying, packing and bottling. The aim is to protect and maintain the quality of food.

(3). Food Adulteration

Food Adulteration is nothing but the intentional addition of harmful substances to food. The aim is to increase the quantity rather than quality. Food adulteration happens due to competition and economic frauds.

(4) Food Contamination

Food contamination refers to contamination of food unintentionally due to bacteria and pressure. Lack of proper food preservation methods leads to food contamination.

Section - B

Q. No. 6

(a)

Blood relation

Sol:

Ahsan said about the woman

Her granddaughter is the only daughter
of my brother



It means the woman is the
mother of Ahsan

The woman is Ahsan's mother

(d)

LCM

Sol:

LCM of two numbers 48

Numbers in ratio are 2:3

18, 12

$$3 \times 6 = 18 > 30$$

$$2 \times 6 = 12$$

2		12, 18
2		6, 9
3		3, 3
3		1, 1
		1, 1
		36

$$\frac{18 \times 18}{36}$$

The sum of the number is

30

Q. NO. 8

(a)

Sol:

5 houses different

D — B — A — E — C

The middle houses are B, A and E, while

the most middle is A.

(c)

Sol:

(c)

$$ATC = \text{coat}$$

(e)

Retaews = Sweater

(d)

Sol:

There are total 18 triangles