

PAR II  
Section - 1

Question no 2

Volcano and their formation

Volcanos are the bursting of molten lava from the crater in the form of ashes, dust and smoke. This is a natural process having various causes and numerous impacts.

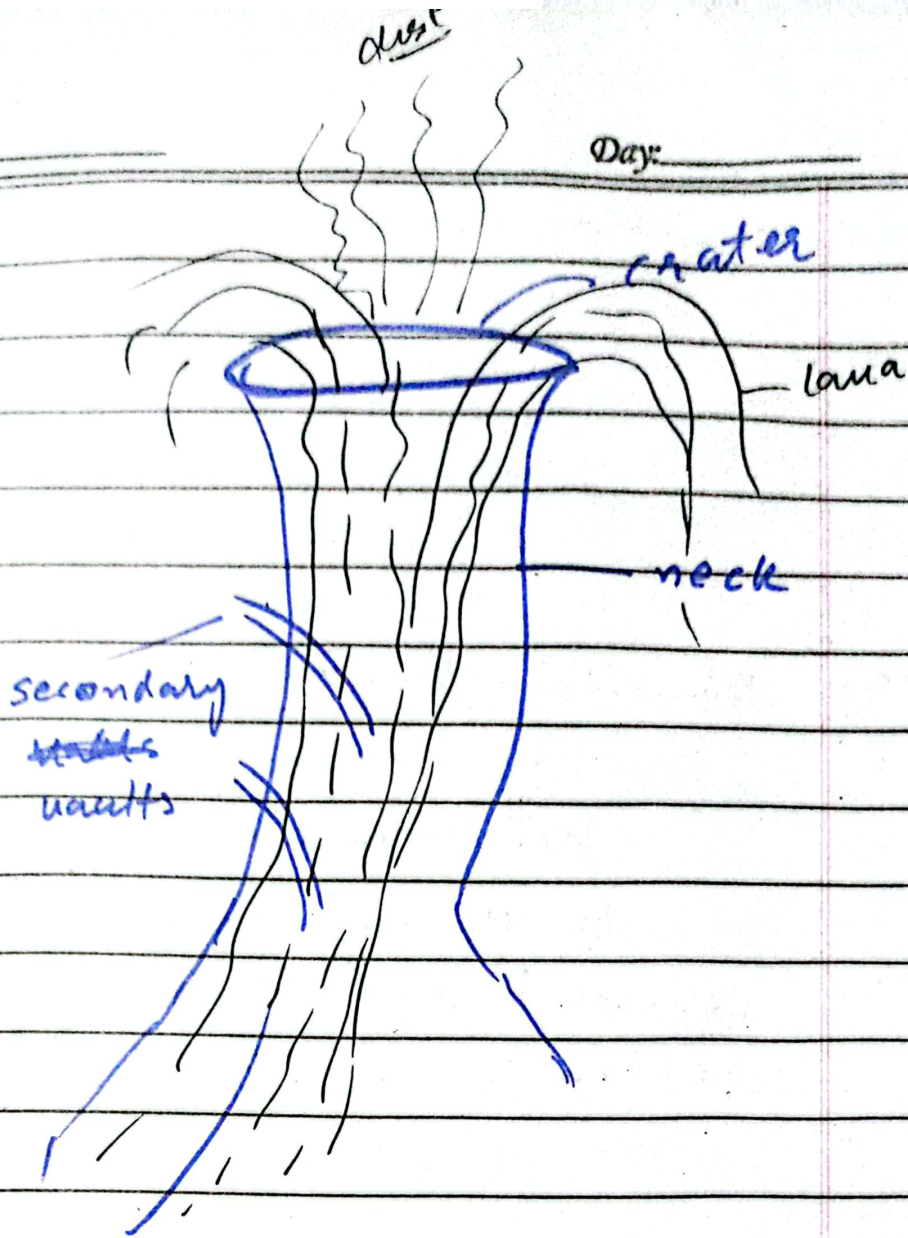
⇒ causes of volcano formation

(1) Movement of tectonic plates :-

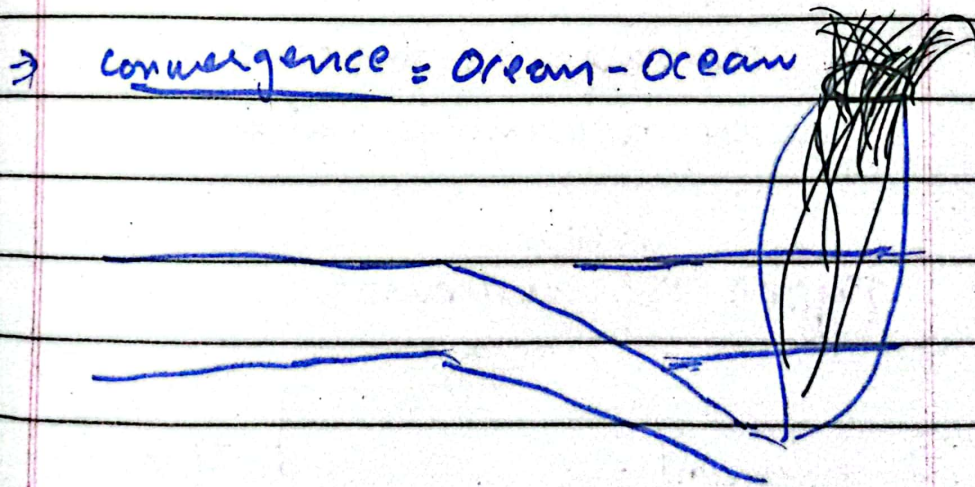
Major cause of volcano formation are movement of tectonic plates

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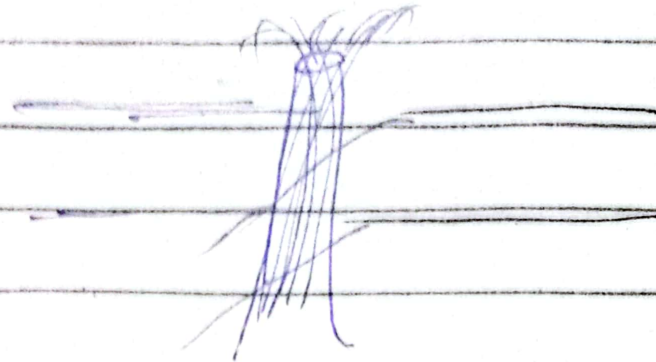
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The diagram of volcano



(2) ocean - continents



(3) ~~Diversity change~~ Density and pressures changes in asthenosphere

Density changes form volcanos in asthenosphere where magma chambers are located cause volcano

(4) percolation of water

percolation of water in the area of tectonic plates cause volcano formation

⇒ Types of volcanos

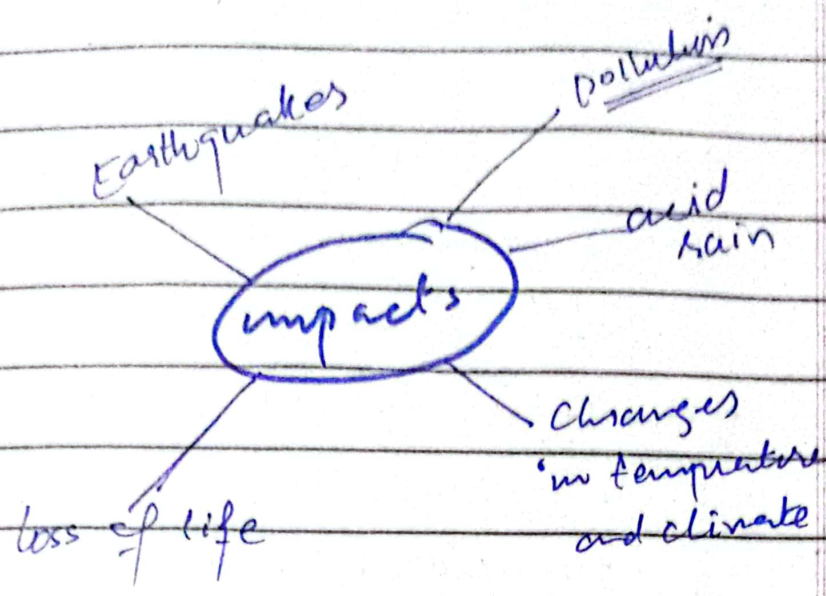
Dormant

↳ Recondiq

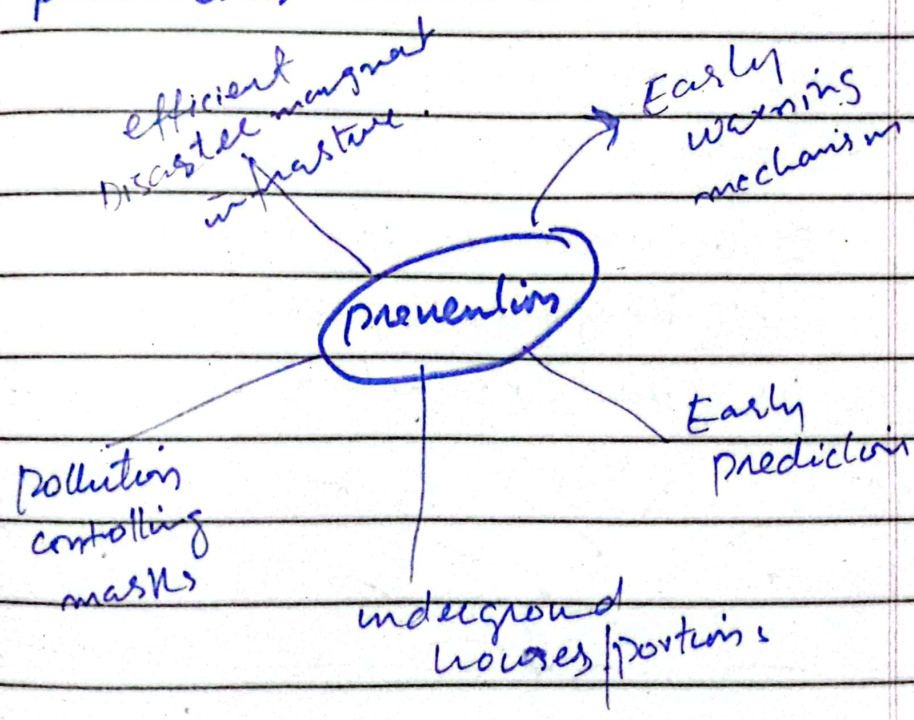
Active

↳ pacific ring of fire

## → impacts of volcano burst



## → prevention measures



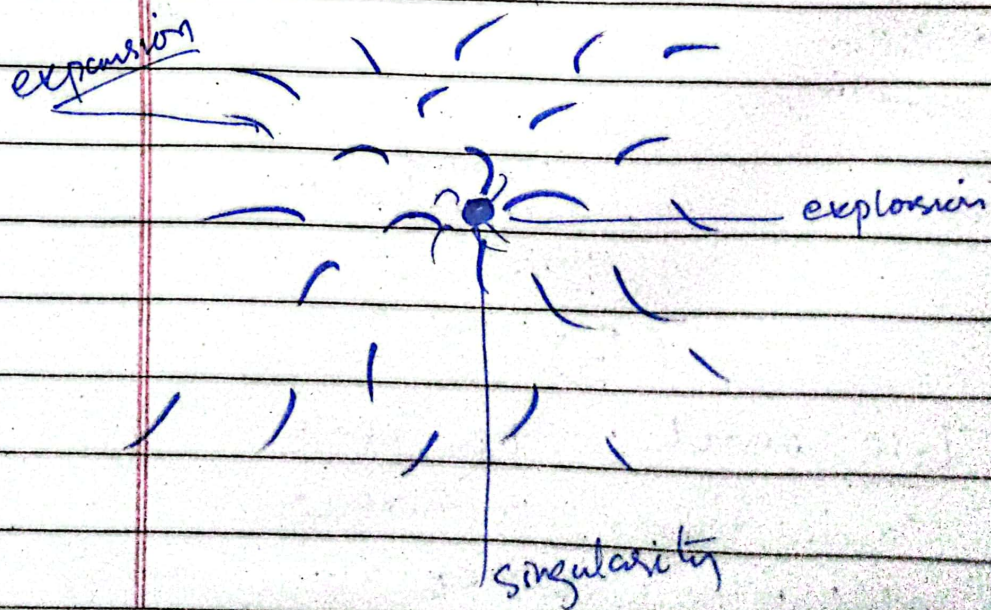
(B)

Big bang :- Big bang is the most prominent theory which explains

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the ~~exist~~ emergence and existence of known universe. According to ~~bang~~ bang theory, everything was deeply condensed at point at point of singularity, and then there comes an big explosion, which started the wave of expansion. During this expansion, atoms, molecule time and space ~~was~~ was formed and hence the contemporary known existence of universe. According to big bang theory universe is still expanding.



→ Big Crunch :-

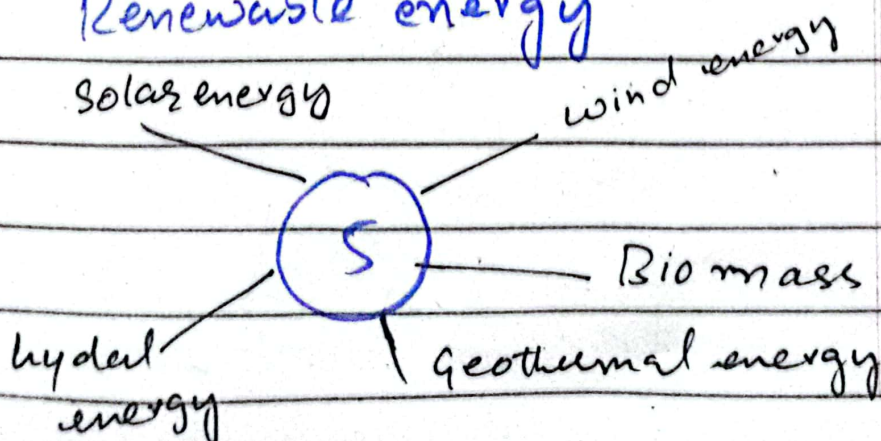
The point of singularity where everything was incorporated into a dense phenomenon. The existence or status of universe before big bang is called big crunch.

→ How the age of universe is determined

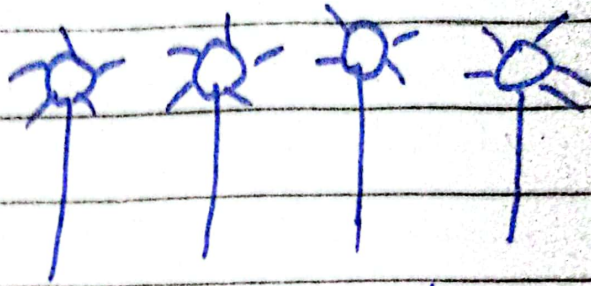
The age of the universe is determined by studying and analysing the cosmic background radiations.

(C)

Five sources of Renewable energy



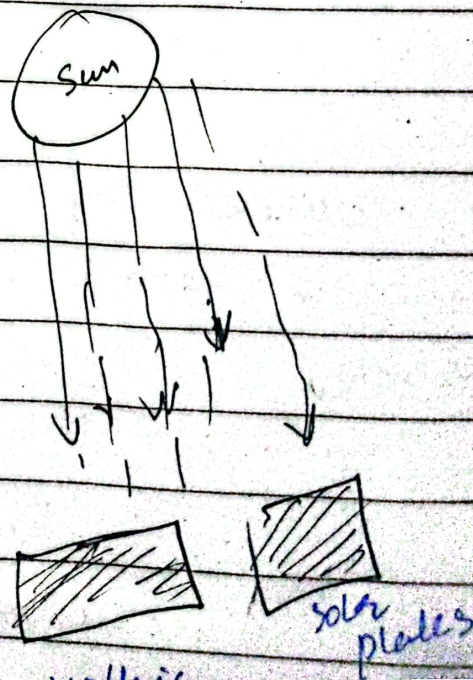
## wind energy



using the ~~low~~ kinetic energy of wind to produce mechanical and electrical energy is called wind energy

→ Hydroal energy :- using the potential energy of water from dams is called Hydroal energy

→ solar energy :-



Using the energy stored in solar radiation is called solar energy

→ Biomass and biofuel:-

Anaerobic digestion of organic wastes or producing energy from burning organic waste ~~it~~ through pyrolysis and incineration is called bioenergy.

→ Geothermal energy:-

using the ~~external~~<sup>internal</sup> heat of earth is called geothermal energy

(D)

Working process of optical fibers:-

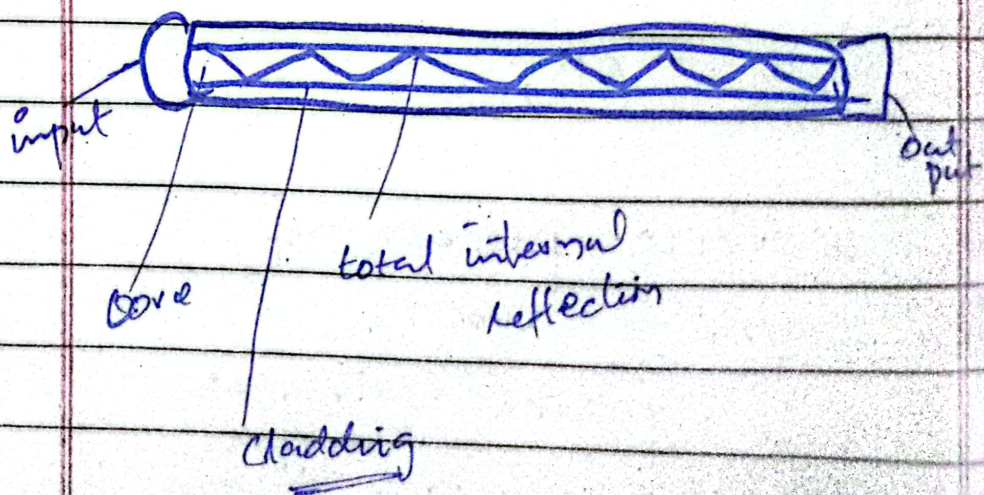
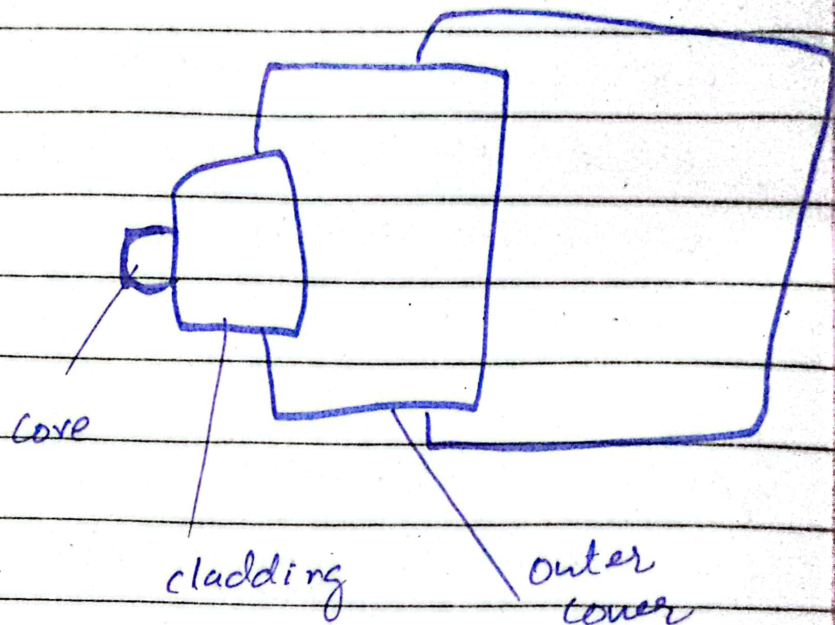
Optical fibers are the core of modern telecommunications. It



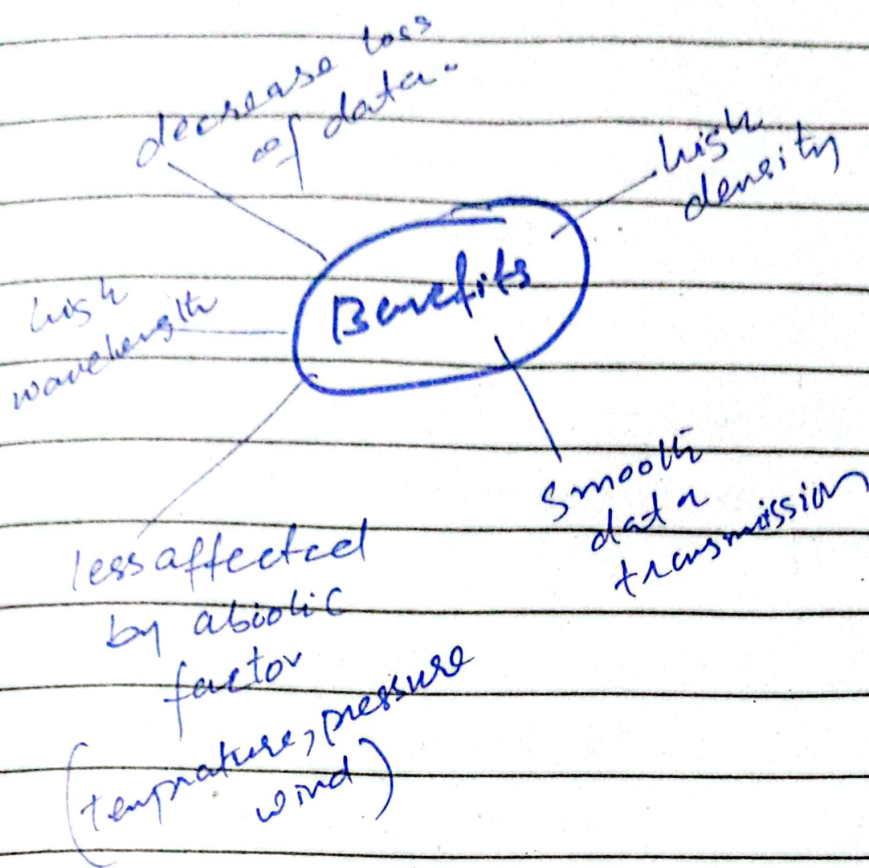
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works under the principle phenomenon of total internal reflection by propagating the data (input) in electric form to usual form (output).

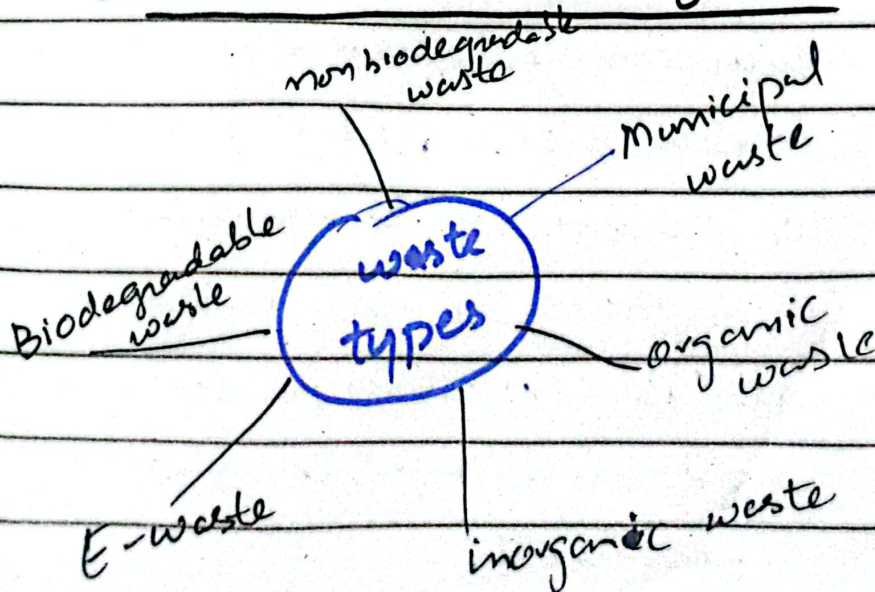


# Benefits of optical fiber



(Question no 4)

# Solid waste management



(landfill diversion)

→ Reuse, Reduce, Recycle

→ Composting

→ incineration

→ Pyrolysis

→ anaerobic digestion

Methods of solid  
waste management

→ landfill

→ Sanitary landfill

→ underground dumping

~~Energy~~ Resource restoration (like  
reduce, reuse and recycle

should be prioritized because

they are sustainable and

environment friendly

mechanisms. After that

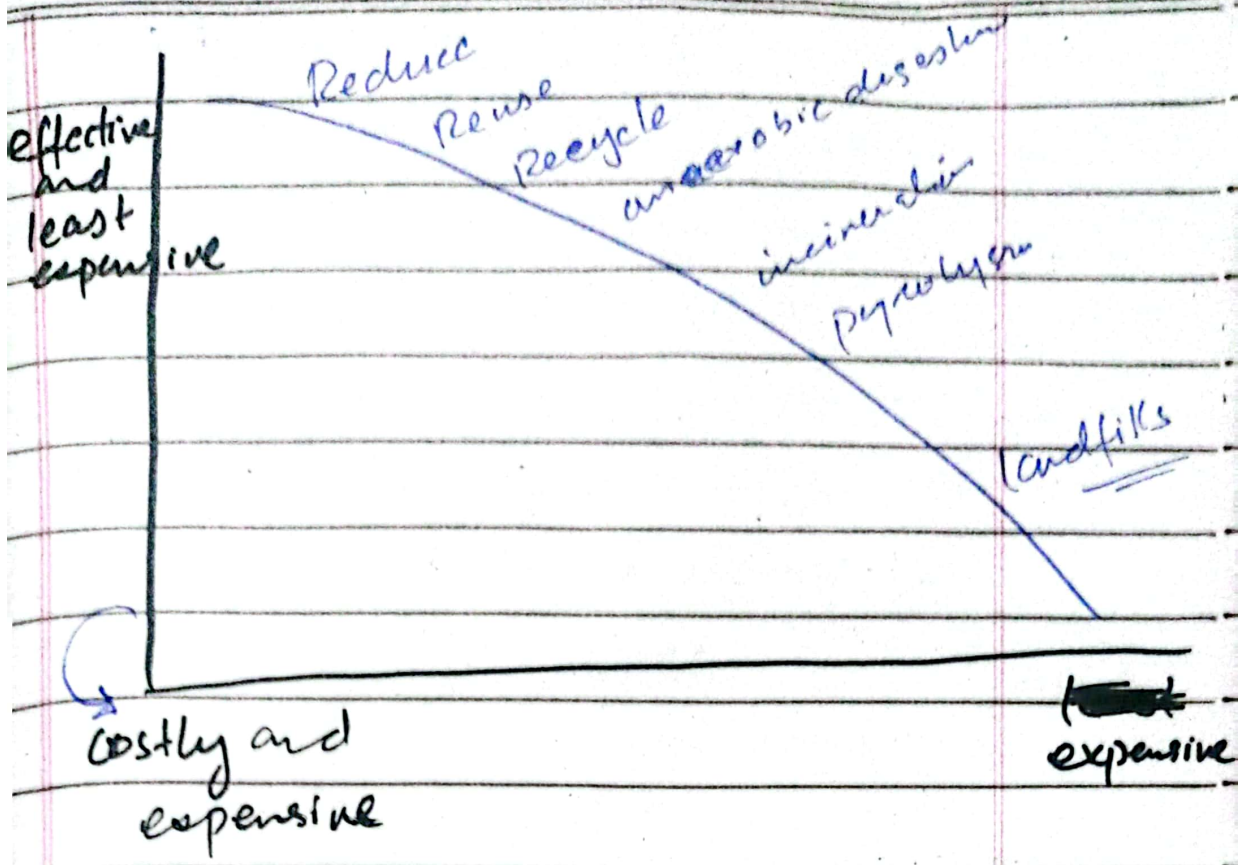
the process of composting

and anaerobic digestion and

at last pyrolysis, incineration

and landfill options should

be "used".



(b)

### Human heart and blood circulation:-

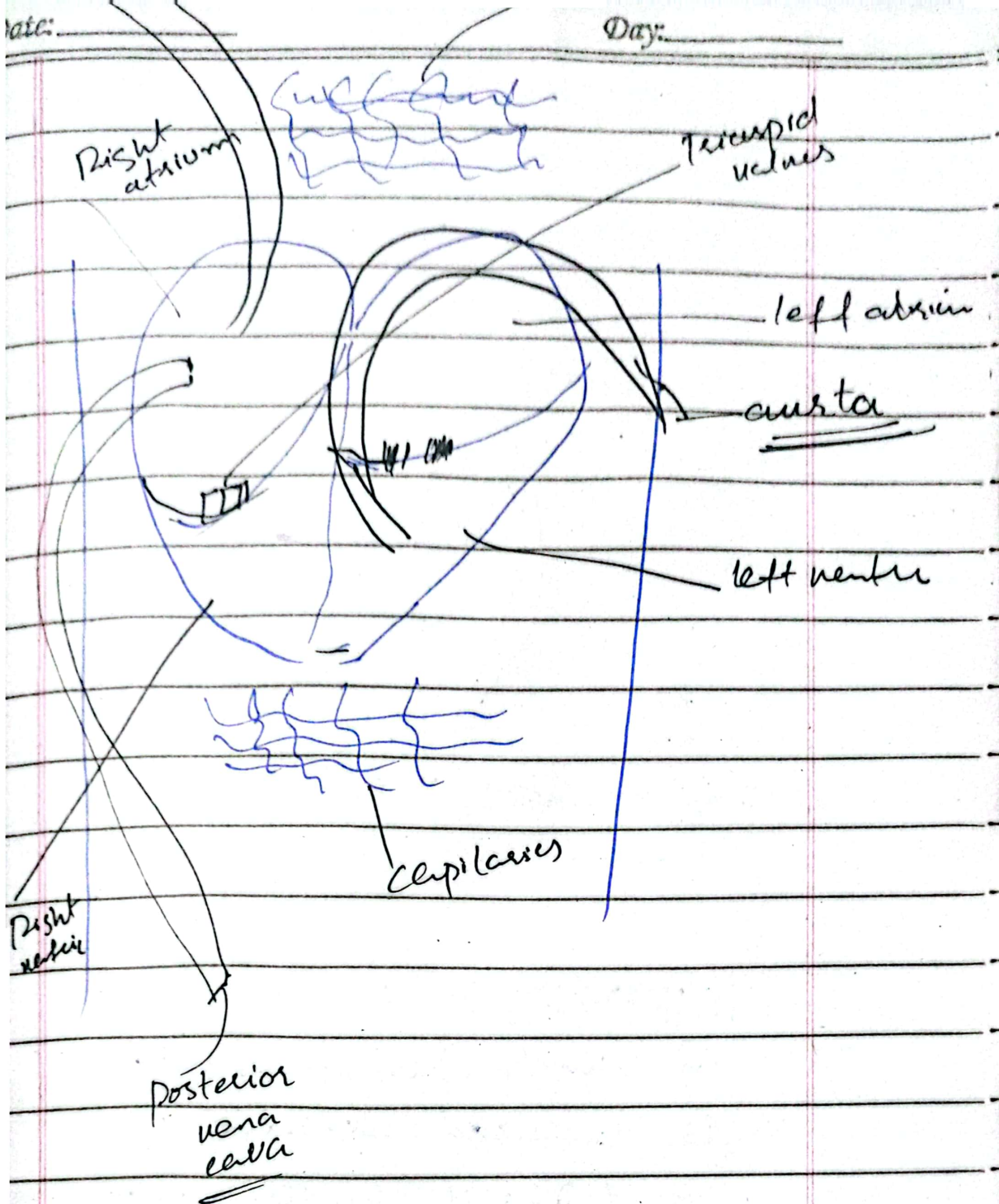
Human heart is a four chambered organ with double circulation mechanism, distribute blood and filter blood in the whole body. It receives ~~blood through~~ deoxygenated blood from posterior and anterior vena cava in the right atrium

From right atrium deoxygenated blood flows into right ventricle, through tricuspid valves. The blood is then pumped into lungs for oxygenation through a vein. Blood gets oxygenated in lungs and from lungs comes into left atrium. Then flows into left ventricle through bicuspid valves. And from left ventricle through aorta distributes into the whole body.

Heart is the one of the most ~~is~~ organs of human body, which receives and distribute blood through arteries, veins and capillaries to whole body.

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(C)

Myopia :-

Myopia is a human eye disease or condition in which human sight is affected. In myopia

~~distant objectives~~ ability of seeing the distant objects is affected.

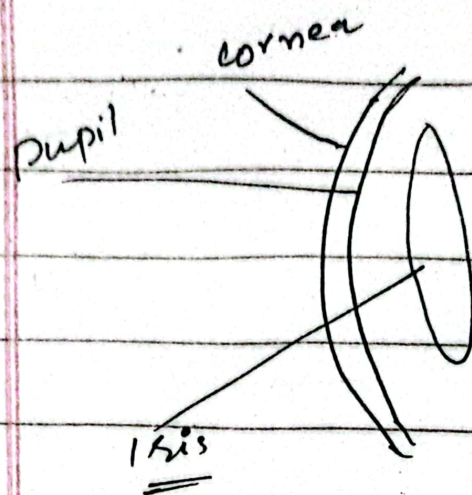


Diagram: structure of human eye.

**Hyperopia:** It is a disease in which human sight is reduced extremely and ability to differentiate between objects is ~~reduced~~ extremely reduced.

(D)

uses of microwave:-

This kind of electro magnetic wave

is used in the kitchen for cooking purposes like ovens etc. It can also be used for heating purposes.

uses of ultraviolet wave:-

ultraviolet waves can be used for cancer treatment and numerous other uses in factories, laboratories and health sector.

uses of X-rays:- X-rays

are widely used in health sector for identifying fault in internal organs like bone fractures and chest and lungs examinations.



## (Section-II)

### (Question no 8)

(D)

Let the age of Sara be  $x$

= Age of Sara's mother will

$$be = 6x$$

⇒ Age of Sara's brother Ali

$$will be = 2x$$

= In ~~the~~ three years, the

Sum of their age will be

$$72$$

Let's put the values and add

3 to their ages

$$x + 3 + 6x + 3 + 2x + 3 = 72$$

$$9x + 9 = 72$$

$$9x = 72 - 9$$

$$9x = 63$$

$$x = 7$$

Now put the values.

$$\text{Sara's age} = 7 + 3 = 10$$

$$\text{Mother's age} = 42 + 3 = 45$$

$$\text{Brother age} = 14 + 3 = 17.$$

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(c)

- (i) Shirt
- (ii) Gender Garden
- (iii) Stomach
- (iv) London
- (v) Holiday

(b)

- (i) 72
- (ii) 25
- (iii) 37
- (iv) 42
- (v) 52

(A)

The three odd numbers are  
89, 91, 93

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Q#7

(A)

Base = 300 km

Height = 400 km

Hypotenuse =  $x$

Using Pythagoras Theorem

Hypotenuse =  $\text{base}^2 + \text{Height}^2$

$$x^2 = 300^2 + 400^2$$

$$x^2 = 17 + 20$$

$$x^2 = 37$$

$$x = 6.666.$$