

Section B.

Question No 3.

(Part a)

Reverse the effects of Global warming

Introduction:-

As per ~~WHO~~ ^{IPCC}, Global warming can be defined as: "A gradual increase in the temperature of the earth." The earth is facing an issue of global warming as the temperature of the earth ~~so~~ has increased upto 1.4°C in the past century. It is very much important to control the global warming as it has severe impacts on the human life, ecosystems and on every living organism in this planet. The following ^{reverse} methods can be used to ~~reduce~~ the effect of global warming.

Increase Forest Cover:

The best way to reverse the effect of global warming is to ~~no~~ plant the forests on a larger scale. Forests will help maintain the temperature and regulate the absorption of gases. Afforestation and reforestation can be done in this regard.

Reduce Emissions:

The reduction of emissions is also very important in order to control the global warming. This can be effectively done by reducing the reliance on non-renewable energy sources like furnace oil, diesel, petrol. Adopting renewable energy sources will help reduce the emissions and eventually reversing the global warming.

Promote Sustainable housing.

To meet the needs of the growing population the sponge cities should be made and vertical urbanization should be promoted. This will help in the increase of green patches and hence increasing the possibility of enhanced green cover.

Promote environmental friendly transport:

The private vehicles should be conditioned with regular checks. The heavy fines should be imposed on the owners who are not following SOP's. Enhanced bus system should be promoted which will reduce private vehicles. Population should focus on and encourage to use bicycle.

International co operation

This cannot be done by a single country or a society rather the whole world needs to play its role. When there is co-operation each country will take part in it and then there is a chance to reverse effects of global warming.

Conclusion:-

By using these strategies the effect of global warming can be reversed ~~but~~ which is a severe need of time.

Q No 3

(Part b)

Ceramics:

Definition:-

A hard, brittle and insulator material made of clay under very high temperature is called ceramics.

~~Part of~~ Properties:-

Ceramics are of different types and used in a different way for several materials. When the ~~the~~ this heavily depends upon the pressure ^{& Temperature}. The ceramics are porous when the ~~the~~ temperature is kept relatively low. The porous quality is then ~~defe~~ used in different materials. The ceramics are harder than the normal clay.

and are durable. They are brittle which means that they can break easily and they are insulators making it an important component in the electronics.

Application.

Most porous structure is used in the earthenware. mainly used in crockery. Stoneware is hard and used in tiles and other accessories. porcelain is ~~to be~~ less porous and also used in making hard materials. Nano ceramics are a vital component of the electronic appliances and circuits.

QNO3

Part c.

Optic fibres:-

Definition:

"The thin ^{strands of} glasses of ~~strands~~ used to transmit light signals from one point to another in telecommunication"

core



cladding Total internal reflection

Working:-

The optical fibre works on the principle of total internal reflection. After achieving the critical angle the light is internally reflected which ensures the propagation of information.

Mobile phones:-

Mobile phone is a device which enables the people to communicate with each other ⁱⁿ ~~for~~ longer distances wirelessly.

Working:-

The mobile phones uses the radio signals from the network they have subscribed and by using this they can help communication over distance.

Q NO 3
(Part d)

Food Additives

The substances which are used or added to increase the taste of the food or to make it more delicious.

Example: flavors like vanillin and Lecithin in chocolate.

F

Food Preservatives

The substances which are used to increase the shelf life of the ~~sub~~ food preventing it from spoilage and making it safe from pathogens.

Examples:-

sorbates which are used against molds, salt and nitrates for meat.

Food adulteration

The deliberate addition of harmful or cheaper substance in in a food. This is illegal and done mainly for cheaper production

Example: Addition of ~~nut~~ water in milk, melamine to increase ~~Food~~ the protein content

Food contamination:

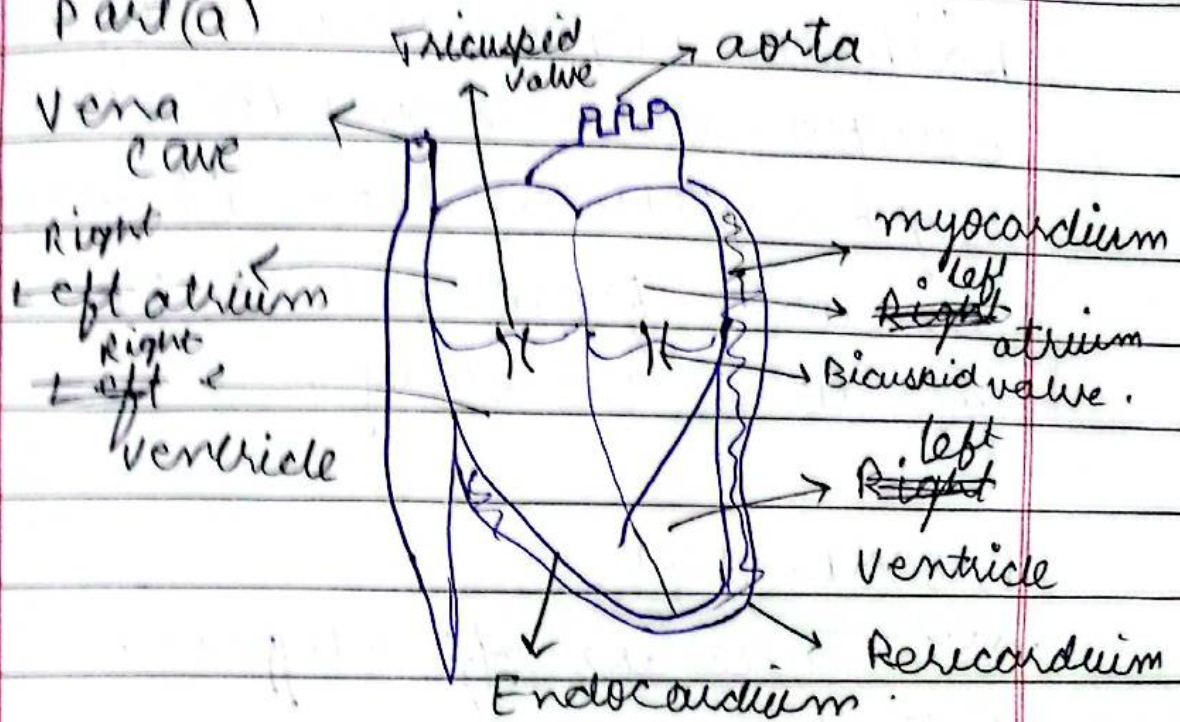
When the food gets contaminated because of the unintentional means during the supply chain:

Ex^{mp} Example:

Residues of glass pieces, an insect excreta.

Q No 4.

Part (a)



Human Heart:

Human heart is a pumping organ made of cardiac muscles. It is responsible for circulating the blood into the whole body by contractions and relaxations. The blood first enters the right atrium by tricuspid valve moves to right ventricle. After it goes to lungs via pulmonary artery to the lungs for

oxygenation. Then it comes back to right atrium, by bicuspid valve moves to the right ventricle. then it goes to aorta from where it goes to the body.

Blood vessels:-

These are of 3 types:

Arteries :-

Arteries carry the oxygenated blood to the different parts of the body except for pulmonary artery which carries deoxygenated blood. They are strong and rigid to withstand high blood pressure.

Veins:-

Veins carry deoxygenated blood from the body to the

to the heart. They are less rigid and the blood pressure remains low. Pulmonary vein carries oxygenated blood.

Capillaries:-

Small network of arteries present in every part of the body. The pressure remains the least and they are also ~~not~~ very flexible. Carry both oxygenated and deoxygenated blood.

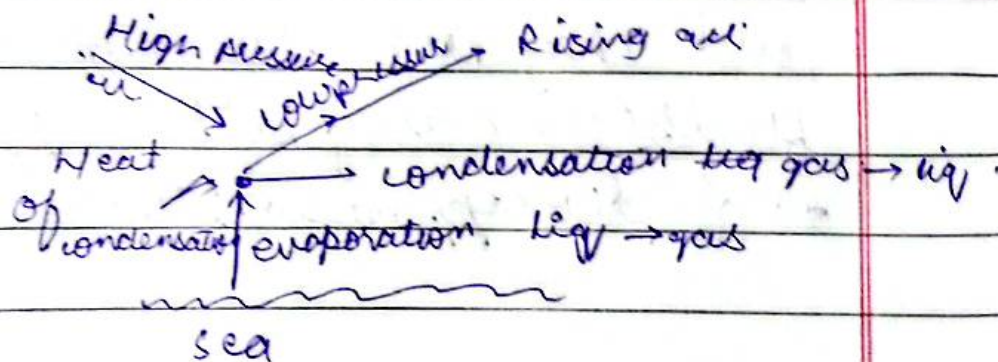
QNO4

(Part b)

Cyclone :-

Definition.

A system of rotating winds around a low pressure core because of pressure gradient and Coriolis effect of the motion of the spin of earth.



Formation:

Coriolis effect :-

The force which tends to move the objects to the right in northern hemisphere and to the

Date: ___/___/___
left in southern hemisphere
due to spin motion of the
earth.

~~The~~ Centrifugal Force:-

The force required
to move object in a circular
path. The coriolis effect is
coupled analogous to centrifugal
force.

When coriolis effect
is coupled with pressure
gradient cyclone is formed.
The winds are of high
speed approximately 120 km/hr .

Q: no 4.

(Part c)

Carbohydrates:

Carbohydrates are the main source of energy. They are the most needed by the body. They provide the body with energy, force and strength to do the work.

Proteins:

In order to lead a healthy life, proteins are very important. Proteins are the main components of the muscle. They ensure that the ~~no~~ body is full of energy and is doing well. If a body is deficient in proteins, it will be exhausted and also the normal functioning of the body will be impacted.

Fats:

Fats are known as the energy reservoirs of the body. they complete the body requirements when the diet is not proper. Also they cover/provide insulation to the major body parts to protect them.

Calcium :-

Calcium is very necessary for healthy bones and teeth. This mineral is also responsible for the clotting of blood and fluid balance of the body. Also important in keeping nerves healthy.

Iron:-

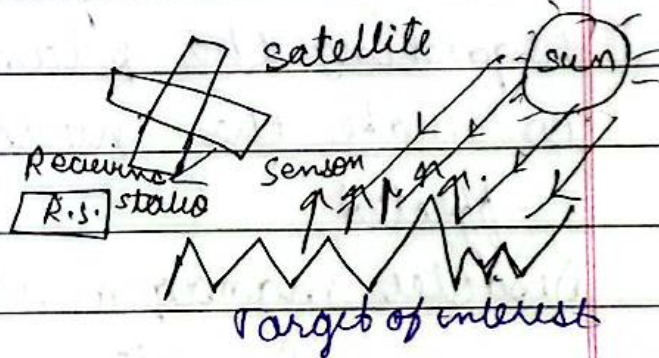
Iron is also essential component for haemoglobin that is important component of blood cells. Iron also keeps the cardiac muscles in a good way. Also maintain fluid balance in the body.

Q No 4
(Part d)

Remote sensing:

Definition:-

The gathering of the data by using a satellite and sensors in order to know and do effort for the area.



Environmental applications:

To know about forest cover;

Remote sensing can be used to know or get information about the forest and also where reforestation is needed.

Agriculture

To know about the possibility that whether the agriculture is possible or not.

Planned Urbanization

AIS is very important to gather the information.

Regarding the planned urbanization to make the environment least effected.

Disaster management

Remote sensing can proven to successful for efficiently countering disaster management.

Ecosystem protection:

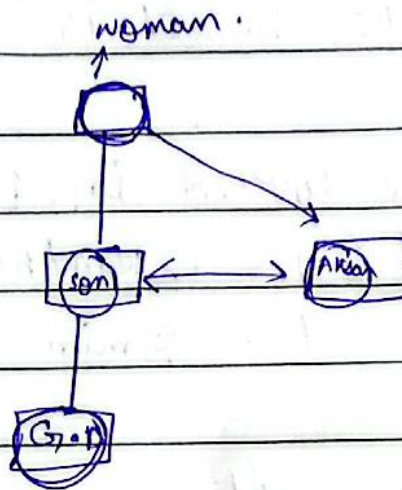
To know about the ecosystem and the way to make it safer.

Section B

Q No 6

(Parta)

Solution



According to the question the who woman who was pointed by Ahsan "is his mother".

$$1.6 \times 1000$$

$$1600.0$$

Q No 6
(Part b)

Given data:

Let the length is $3x$

Let the breadth is $2x$.

Now

Distance covered in 1 round $s = ?$

speed $= v = 12 \text{ km/hr.}$

Time $= t = 8 \text{ min or } \frac{8}{60} = 0.133 \text{ hr.}$

$$\text{No } s = vt$$

$$s = 12 \times 0.133$$

$$s = 1.596 \approx 1.6 \text{ km.}$$

This is perimeter

Now

$$\text{As } P = 2(L + b)$$

$$1.6 = 2(3x + 2x)$$

$$1.6 = 10x$$

$$1600 \text{ m} = 10x$$

$$x = \frac{1600}{10} = 160$$

$$x = 160 \text{ m.}$$

$$\begin{aligned}\text{then } L &= 3x \\ &= 3(160) \\ &= \boxed{480\text{m}}\end{aligned}$$

$$\begin{aligned}b &= 2x \\ &= 2(160) \\ &= \boxed{320\text{m}}\end{aligned}$$

Now area =

$$\begin{aligned}A &= L \times W \\ &= 480 \times 320\end{aligned}$$

$$\boxed{A = 153600\text{ m}^2}$$

QNO6 (Part c)

Solution:

Let the unit Tens digit = $10x$
then unit digit $y = x + 2$.

NO

$$(x)(x+2) + (x+x+2) = 144.$$

$$x^2 + 2x + 2x + 2 = 144.$$

$$x^2 + 4x + 2 = 144.$$

$$x^2 + 4x = 144 - 2.$$

$$x^2 + 4x = 142.$$

Now As given

$$(10x + y) \times (x + y) = 144.$$

as $y = x + 2$

$$(10x + x + 2) \times (x + (x + 2)) = 144.$$

$$(11x + 2) \times (2x + 2) = 144.$$

$$(11x + 2) \times 2(x + 1) = 144.$$

$$2(11x + 2)(x + 1) = 144.$$

$$(11x + 2)(x + 1) = \frac{144}{2}$$

$$(11x + 2)(x + 1) = 72.$$

$$11x^2 + 11x + 2x + 2 = 72$$

$$11x^2 + 13x + 2 - 72 = 0$$

$$11x^2 + 13x - 70 = 0$$

Solution

Using Quadratic formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{-13 \pm \sqrt{13^2 - 4(11)(-70)}}{2(11)}$$

$$= \frac{-13 \pm \sqrt{3249}}{22}$$

$$= \frac{-13 \pm 57}{22}$$

$$\frac{-13 + 57}{22}$$

$$\frac{-13 - 57}{22}$$

$$\frac{44}{22} = 2$$

$$\frac{-70}{22} = x$$

As the $x = 2$ (tens digit).

then unit digit is $x + 2 = 4 \Rightarrow y$

then the number will be

$$10x + y =$$

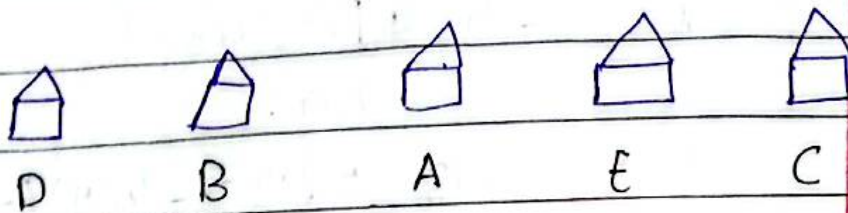
$$10(2) + 4 \rightarrow 20 + 4 = 24$$

24

Q NO 8:
(Part a)

Solution:

According to question



The house in the middle
is "A".



Q NO 8 (Part c).

a) THRSI SHIRT

b) AOTC COAT

c) EOUBSL BLOUSE

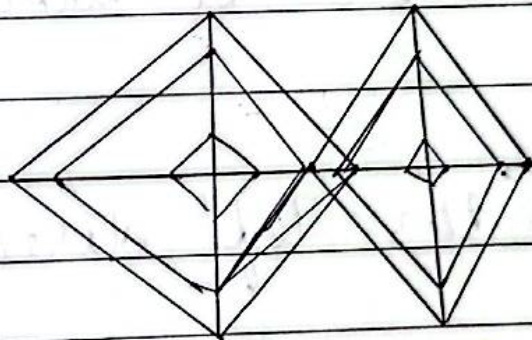
d) KTRIS SKIRT

c) RETA EW S. SWEATER.

The odd among them is skirt as every other item is upper body garment and the skirt is lower body.

QNO8 Part d.

Solutions:



The number of triangles in this figure are 18.

Q. NO 8 Part b.

Solution :

- The person is 3 km away from starting position.
- The direction is towards North.
- After second turn the direction will be towards west.
- Towards the left direction.