

SECTION B ANSWER # 7 PART A

Data:

Let the first number be x .

Second number be y

$$40\% \text{ of } x = \frac{2}{3} \text{ of } y.$$

Solution:

$$\text{As } 40\% \text{ of } x = \frac{2}{3} \text{ of } y.$$

$$\frac{40}{100} \times x = \frac{2}{3} \times y.$$

$$\frac{2 \times 4}{5 \times 10} \times 3 = \frac{y}{x}$$

$$\frac{3}{5} = \frac{y}{x}$$

The ratio of first number to second number

$$\frac{5}{3} = \frac{x}{y}$$

So the ratio of first number
to the second number is:

$$\underline{5 : 3}$$

ANSWER

ANSWER #7 PART C

Data:

Let the age of the son = x

Age of father = y

Man's age = 24 years older than son

After 2 years = Man age twice than son

Solution:

$$\begin{aligned}\text{Man age at present} &= 24 \text{ years} + \text{son age} \\ &= 24 + x\end{aligned}$$

After 2 years

$$\text{Son age} = x + 2$$

$$\begin{aligned}\text{Father's age} &= 2(x + 2) \quad \text{or} \\ &24 + (x + 2)\end{aligned}$$

So

$$2(x + 2) = 24 + (x + 2)$$

$$2x + 4 = 24 + x + 2$$

$$2x - x = 24 + 2 - 4$$

$$x = 26 - 4$$

$$x = 22$$

Therefore

The present age of son is 22 years.

ANSWER

ANSWER # 8

PART A

The house names are from A to E
So, the houses are.

A , B , C , D , E

Now consider.

Left ← → Right

According to the given conditions:

A is right to B.

E is to the left of C

E is to the right of A.

B is to the right of D.

So,

Left C , E , A , B , D Right

Therefore,

The house in the middle is A.

ANSWER

ANSWER NO 8 PART B

Data:

Start running from a point towards north

After covering 4km turn left and run 5km

Then again turn left and run 1km

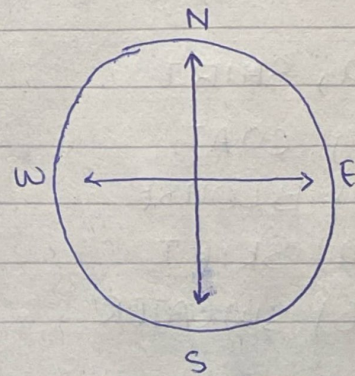
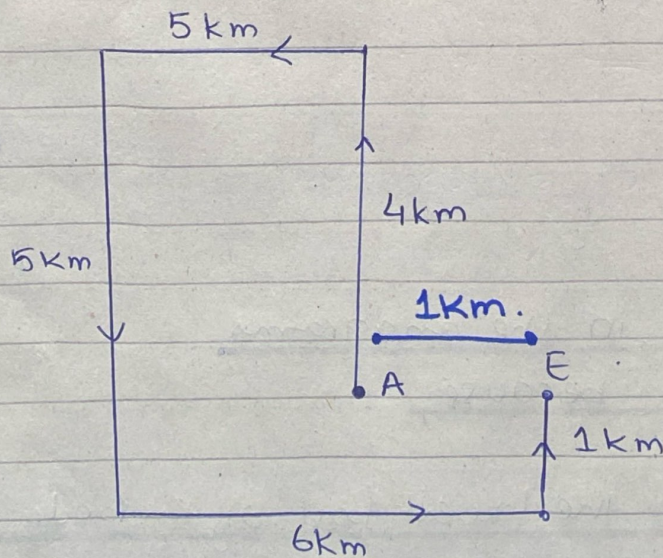
Solution.

Directions from the turns.

	Right	Left
North	East	West
South	West	East
East	South	North
West	North	South

So based on the hypothetical situation.

let the starting point be A
and end point be E.



So based on the diagram.

- The distance between the starting point and ending point is 1km.
- While finishing the direction will be of north
- After taking second turn the direction running will be south.
- From finishing point, to reach the starting point the direction running will be West.

ANSWER.

ANSWER #8 PART C

The anagrams given are.

- a, SHIRT
- b) COAT
- c) BLOUSE
- D) SKIRT
- E) SWEATER.

So, the manout in the anagrams is D, SKIRT because,

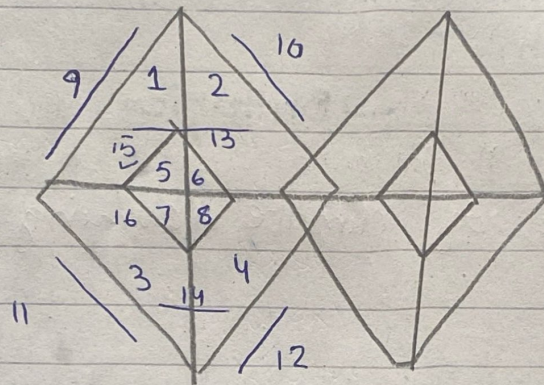
Skirt is worn on the lower part of the body while all other are worn on upper part.

Skirt is a part of summer outfit and all other are part of winter outfits.

ANSWER

ANSWER #8 PART D

Based on the figure below.



One figure has 14 triangles.
 other will also have 14 triangle.
 Then both combine having 2 more
 triangles.
 So.

$$14 + 14 + 2 = 30$$

So the figure has a total of 30 triangles

ANSWER

ANSWER #3

1. GLOBAL WARMING:

“Global warming refers to the warming and increase in the temperature of earth.”

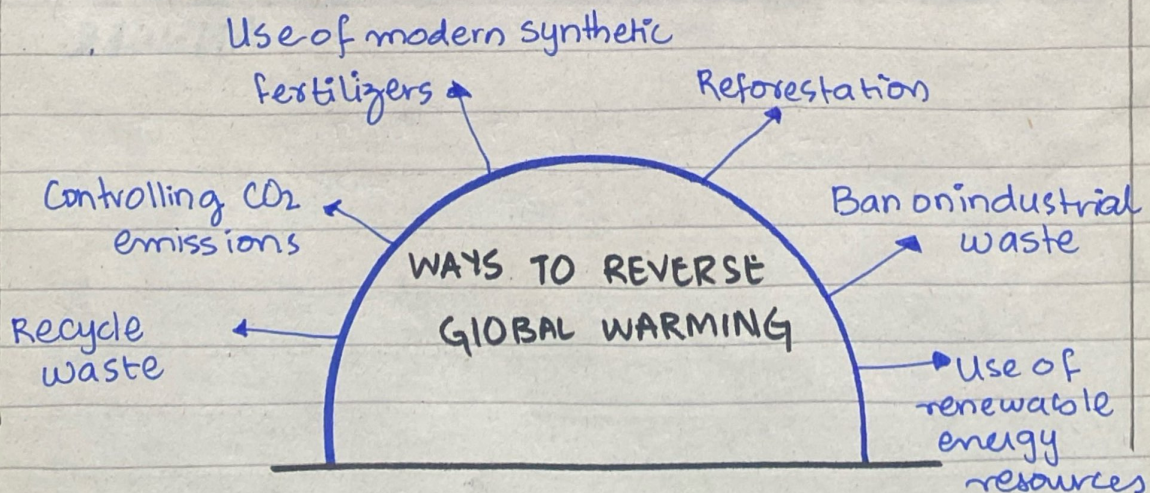
— Britannica.

The evidence of climate warming is that:

“The earth countered the shortest winter and ice months in Arctic ocean in 2025”

— IPCC. (Inter Governmental Panel of climate change)

2. WAYS TO REVERSE GLOBAL WARMING:



(i) CONTROLLING CO₂ EMISSIONS:

Global warming can be reversed through controlling the CO₂ emissions on Earth. This can be done by reducing the burning of fossil fuels and by controlling the use of equipments emitting CO₂ gas and other harmful gases such as refrigerators and air conditioners.

(ii) USE OF RENEWABLE ENERGY RESOURCES:

The use of renewable energy resources will help in the reduction of global warming. The use of renewable energy for energy production produces less CO₂ emission aiding in the reverse of global warming.

(iii) RECYCLING WASTE:

The recycling of waste will help reduce the burning of waste on earth which will also aid in the reverse of global warming.

(iv) BAN ON INDUSTRIAL WASTE:

The industrial waste impacts the earth's temperature a lot. The unprocessed emission of industrial waste such as solid waste and gaseous waste should be banned to reverse the global warming of earth.

(V) REFORESTATION.

The reforestation of an earth will help in the reverse of global warming as it helps in the reduction of CO_2 on earth.

(VI) USE OF MODERN SYNTHETIC FERTILIZERS:

The nitrogenous fertilizers play a major role in the rise of global warming on earth. The use of modern synthetic fertilizer will help reverse the global warming issue.

ANSWER #3 PART b

1. CERAMICS:

"Ceramics are porous materials made from the combination of sands to increase the hardness of the material."

The ceramics are formed by the different kinds of sands. They are made in order to increase the hardness of the material.

2. PROPERTIES OF CERAMICS:

1. They are less easier to break
2. They are porous.
3. They can take different shapes easily.
4. They, when broken, are hard to shaped again.

3 APPLICATIONS OF CERAMICS:

There are several applications of ceramics such as.

(i) Aerospace :

Ceramics are used to make the body of the aeroplanes.

(ii) Household utensils :

Ceramics are used in the making of house hold utensils such as plates and dishes.

ANSWER # 3 PART D

1 FOOD ADDITIVES:

Food additives are additive materials which are used and added in food to add or enhance the taste to the food. They are generally not needed in food but only used

to increase the taste of food.

1.1 EXAMPLE :

Add on spices are added in foods.

1.2 REAL-LIFE EXAMPLE :

In chocolates add on flavour is added to make them more sugary and sweet.

2 FOOD PRESERVATIVES.

The food preservatives are added in the food to increase the shelf life of food and prevent it from decaying.

2.1 EXAMPLE :

Potassium preservatives, synthetic preservatives, phenolic compounds.

2.2 REAL LIFE EXAMPLES :

In canned food products, preservatives are added so that the food can be prevented from rusting and decaying early.

3 FOOD ADULTERATION:

Food adulteration is a process in which foreign materials are purposely added in food to increase the weight or quantity of the food.

3.1 EXAMPLES .

Stones, sand, water in milk.

3.2 REAL LIFE EXAMPLE:

Stones are added in pulse to increase the per kg weight of pulses.

4 FOOD CONTAMINATION:

Food contamination is referred to the introduction of harmful bacteria or viruses in food which is done due to the lesser hygienic conditions around food.

4.1 EXAMPLES:

Diarrhea bacteria through food.

Hepatitis virus through food.

4.2 REAL LIFE EXAMPLE:

A burger cooked in unhygienic conditions, is contaminated by the bacteria causing diarrhea. This contaminated food is taken by human resulting in food poisoning, vomiting and diarrhea.

ANSWER # 4. PART D.

1. REMOTE SENSING:

"Remote sensing refers to the transfer of

data and communication through foreign objects for far areas. The remote sensing is usually done from space or through high earth regions"

2. WAYS REMOTE SENSING CAN BE EMPLOYED FOR ENVIRONMENTAL PURPOSES:

Aiding in early warning alarms for floods

Calculation of pollution ratio of any area.

Early alarms for volcanoes and cyclones

Forecasting rainfall and weather.

(i) AIDING IN EARLY WARNING ALARMS FOR FLOOD:

Remote sensing can be employed for the early warning for flood. This will help in the control of floods and evacuation of population from flood zones.

(ii) CALCULATION OF POLLUTION RATIO OF ANY AREA

Remote sensing can be employed for the calculation of pollution ratio, such as calculation of CO₂ ratio of any area aiding in environmental betterment of any area.

(iii) EARLY ALARMS FOR VOLCANOES AND CYCLONES:

Remote sensing can aid in the early warning system for determination of volcanoes and cyclones prior they destroy the earth and impact humans. This will aid in the prior evaluation and precautionary measures for volcanoes and cyclones.

(iv) FORECASTING RAINFALL AND WEATHER:

Remote sensing can be employed for forecasting of rainfall and weather on earth.

ANSWER # 4 PART C

1 FUNCTIONS OF CARBOHYDRATES:

1. Carbohydrates help in the early energy production in body.
2. Carbohydrates are necessary creating body mass.

2. FUNCTIONS OF PROTEINS:

1. Proteins are necessary for the ATP production in body.
2. Proteins are necessary for basic cell functions and cell divisions in human body.

3. FUNCTIONS OF FATS:

1. Fats help in the creation of muscles and body mass in body.
2. Fats help to increase the cell mass.

4. FUNCTIONS OF CALCIUM:

1. Calcium help in the strengthening of bones.
2. Calcium help in the strengthening of teeth.

5. FUNCTIONS OF IRON:

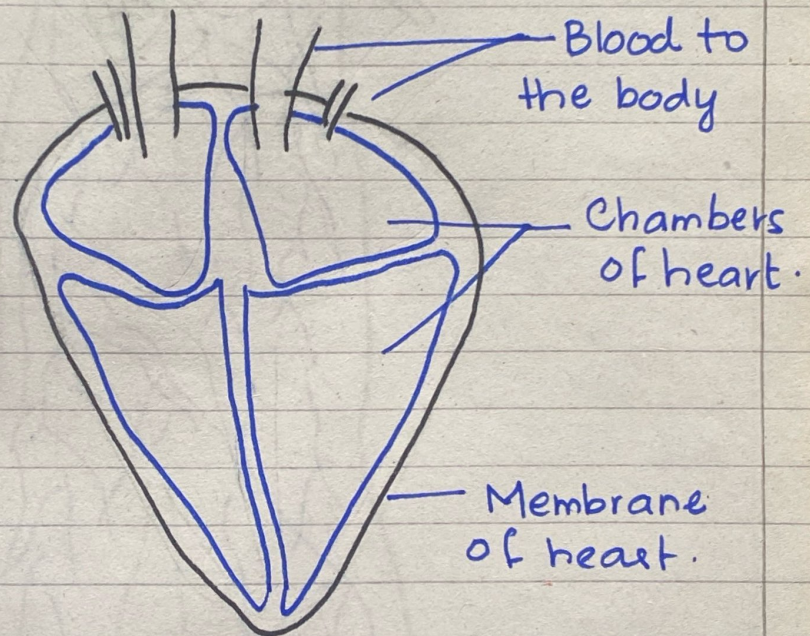
1. Iron help in the strengthening of bones and muscles.
2. Iron also help in the production of haemoglobin in body.

ANSWER # 4 **PART a**

1. ROLE OF HEART IN CIRCULATION:

The heart is the pumping organ of body. Heart has the vital role in the

circulation as it helps in the circulation of blood in the whole body. The heart consists of chambers which help in the conversion of deoxygenated blood to deoxygenated blood with the help of lungs. The oxygenated blood is then pumped by the heart to the whole body and all vital organs of body.

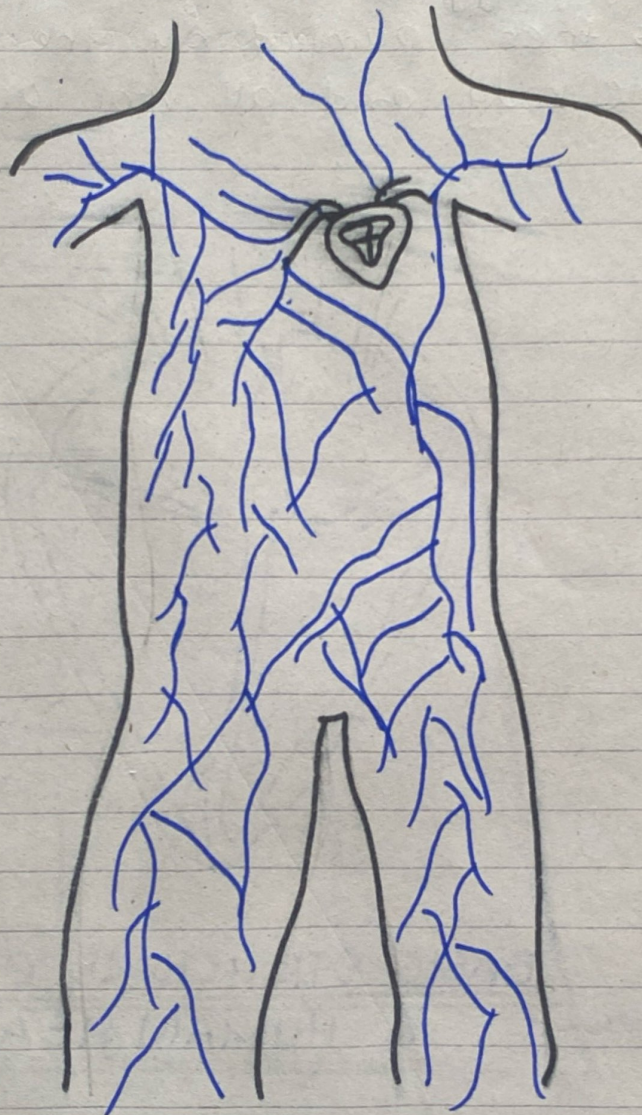


BASIC STRUCTURE OF A HUMAN HEART

2. ROLE OF BLOOD VESSELS IN CIRCULATION :

Blood vessel help in the circulation of blood through out the body. The blood vessels create a forest of vessels in the

whole body through which blood is transported to ~~eat~~ each part of the human body. Therefore for circulation of blood is majorly done through the blood vessels in the body.



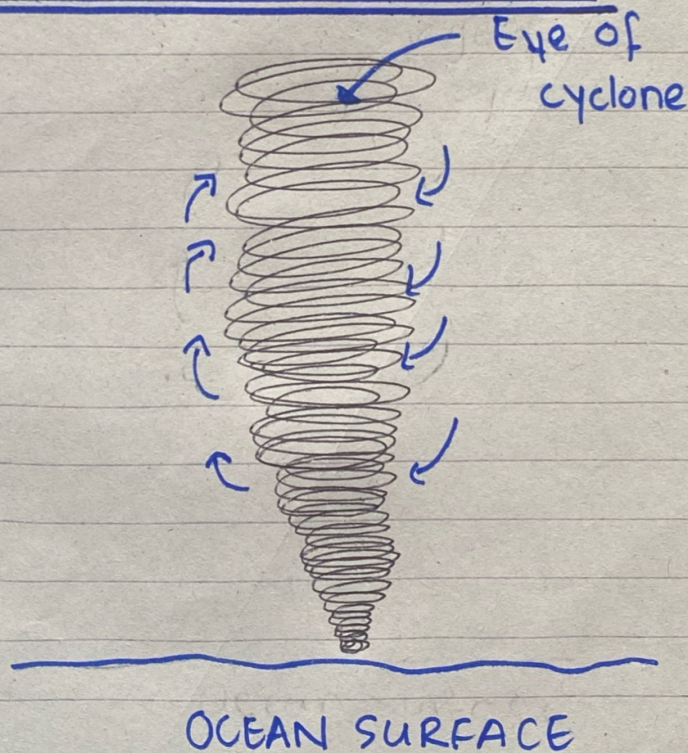
BASIC STRUCTURE OF
HUMAN BODY SHOWING
HEART AND BLOOD
VESSELS.

ANSWER #4 PART B

1 CYCLONES:

"Cyclones are large cyclic winds formed in the oceans due to the high temperature and pressure in the ocean"

2 FORMATION OF CYCLONE:



Cyclones are formed on the surface of the ocean. The high temperature, pressure and density of ocean causes the wind

to move in cyclic manner. With the upward pressure of air these cyclic winds start to create cyclones. The cyclones then move from sea through the winds and reach the land impacting human lives and infrastructure on earth.

