

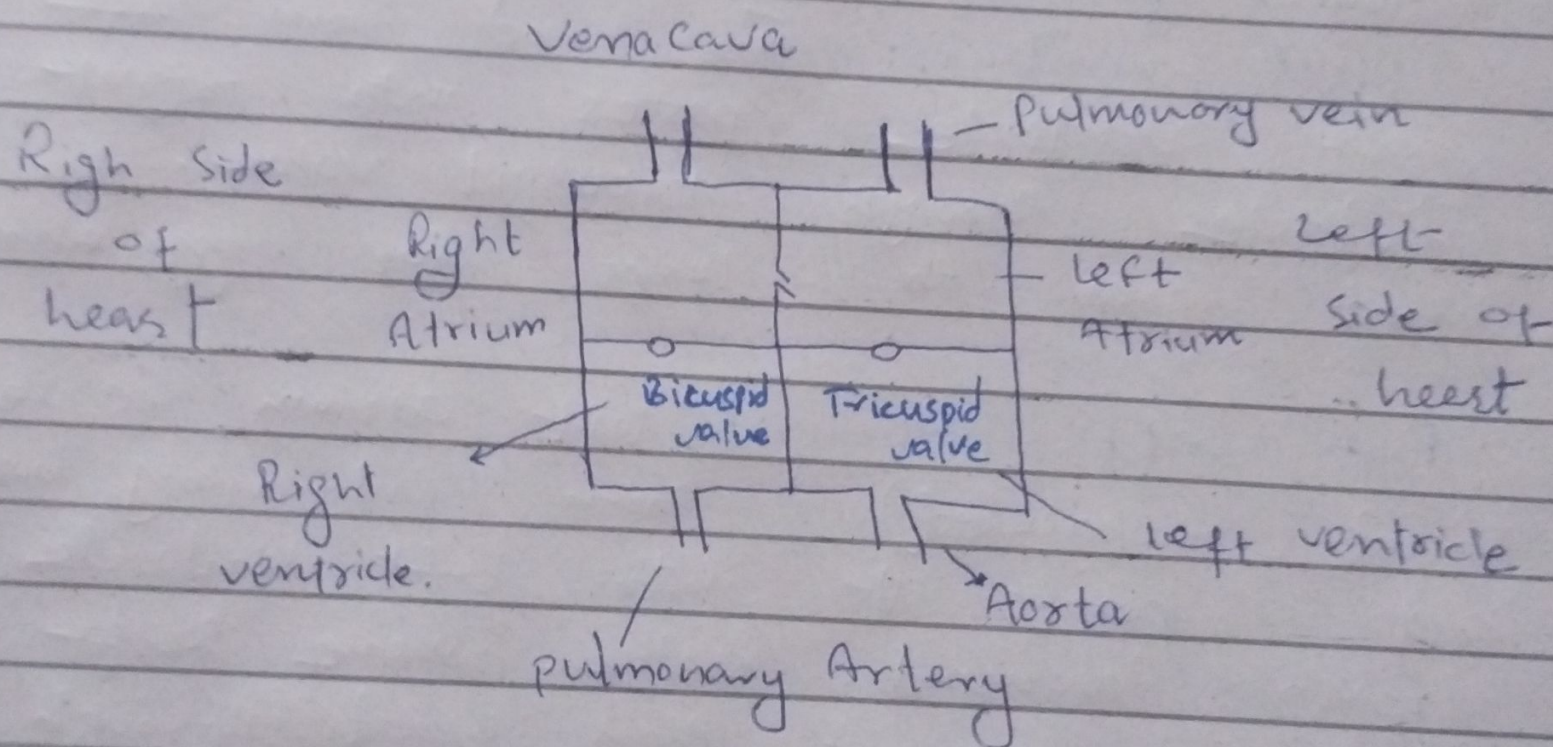
Q No: 03

Answer:

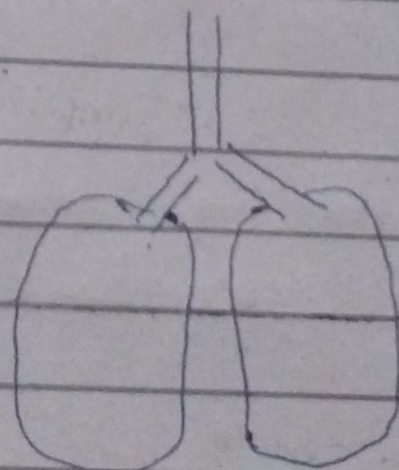
Double Circulation

circulation of blood in the body where blood travels two times to heart. This is the most evolved form of blood circulation. It is found in mammals. Unlike, fishes where blood goes to heart only one time.

Adaptation of Heart to blood Double circulation:



Pulmonary Artery takes deoxygenated blood to lungs where blood is oxygenated.



Pulmonary vein takes oxygenated blood to left atrium from where

The blood moves to right ventricle.
Left ventricle: It pumps the blood from left atrium and pumps it to whole body.

Left - Right Atrium: The whole deoxygenated blood comes from the body. Upper body part (Arms + Head) blood comes through Superior Vena Cava and lower body parts (Abdomen and legs) come into inferior Vena Cava. Upper and lower Vena Cava join to gather and form Main Vena Cava and enter into Right Atrium.

Right ventricle: The blood from left right ventricle passes into right ventricle through bicuspid valve. The blood goes to lungs for oxygenation.

Right Left Atrium: Left atrium receives blood (oxygenated) from pulmonary vein and pumps it into left ventricle through bicuspid valve. Where left ventricle pushes this blood through Aorta into whole body.

Pumping mechanism of Heart:
It is maintained by Nodes which provide electrical impulse to heart.

SA node

AV node

Purkinji fibers

(ii) Liver is a Chief Chemist
in body.

Liver is the second largest organ of body. (first being Skin) It performs myriads of function. It is located in the right side of Abdomen. However, being large in size some of its portion lies in left side as well.

Chief Chemist:

Almost all the chemical reactions of body take place inside liver. There for it is called Chief Chemist.

Functions of liver / chemical Rxns:

(*) Urea cycle of body occurs in liver. It converts Nitrogenous waste into urine which is then filtered through kidneys.

(*) Conversion of extra carbohydrates into glycogen occurs in liver. When body is in need of glucose (carbohydrates) liver converts glycogen into glucose.

(*) Break down of lipids also occurs in liver. Triglycerides formation and other necessary lipid by products form here.

(*) Alcohol break down (C_2H_5OH) takes place in liver

(*) Detoxification of drugs (medicines) happens in liver where a drug is converted into its active form.

(*) Liver produces enzymes which help in digestion. These enzymes are bile juice.

(*)

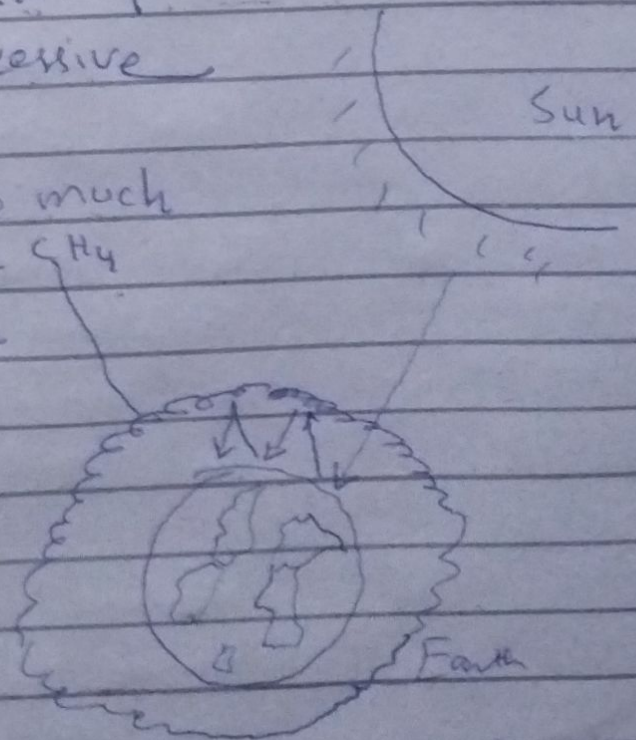
Q No: 03

How GHG effect is blessing.

Green house gas effect is beneficial in many ways. It helps retaining required temperature of earth. Without GHG effects earth would be very cold and uninhabitable for living. So GHE Effects acts as a blanket and creates an average temperature of 25°C on earth which is the basic requirement for the survival of life on earth.

Enhanced Green House Gas EFFECT:

Due to industrial revolution and excessive burning of fossil fuels the blanket of CO_2 (CH_4) has become very thick around the globe. This is trapping more and more energy. Enhanced GHE is injurious for the health of planet. As this effect



is responsible for increase in overall temperature, change in weather pattern and rising temperature.

Global Warming:

Global warming is a term referred in the temperature of earth. It is the rise of overall temperature of earth which is resulting havoc for the whole humanity.

Disaster Impacts of Global Warming:

⑧ Flood in many parts of the world. These floods are causing huge economic loss and life toll.

⑦ Droughts in some parts. These droughts are the cause of low crop yield which has a bad impact on global food chain.

⑥ Too much precipitation in winter resulting into fog. Smog is the main cause of disturbance in daily life activities of life.

⑤ Melting glaciers, which are the source of fresh water reservoirs on earth. So global warming

(d) Working on GPS:

Global Positioning System: It is a system of controlled by man made satellites. Through this system man become aware of their position on earth. It tells the user about his direction and destination while travelling or moving. Besides this GPS is responsible for many other positive uses.

(i) Demographic changes can be seen through this system

④ Urbanisation can be seen through this.

④ Movement of terrorists is possible.

④ Help It provides help in searching any disaster hit area.

SECTION = II

(b) Perimeter of a circle

⇒ Given values

Radius of the circle = 6 cm

⇒ Formula for perimeter of a circle

$$P = 2\pi r \quad \text{--- (i)}$$

or

$$P = \pi d \quad d = \text{diameter}$$

⇒ By Putting values in the formula

$$P = 2 \times \frac{22}{7} \times 6$$

$$P = \frac{264}{1} = 264$$

$$\begin{array}{r} 22 \\ \times 6 \\ \hline 132 \\ \hline 132 \\ \hline 264 \end{array}$$

$$P = 37.71 \text{ cm}$$

Q No: 06

(d)

Given values:

$$a : b$$

$$2 : 3$$

$$b : c$$

$$5 : 8$$

Overall ratio

$$a : b : c$$

$$2 : 3 :$$

$$\rightarrow 5 \rightarrow 8$$

$$\hline 10 : 15 : 24$$

$$\text{Sum of the ratios ratios} = 10 + 15 + 24 = 49$$

$$a = \frac{49}{10} \cdot 98$$

To find the value of c :

$$c = \frac{98^2}{49} \times 24 = 98$$

$$c = 48$$

So the correct answer is 48.

The first Prime No. is $x+2 = 49+2 = 51$
 second $x+4 = 49+4 = 53$
 third $x+6 = 49+6 = 55$

Only the middle one is prime number.
 So

(47) 48 49 50 51 52 (53) 54 55 56 57 58 (59)

So we have Prime numbers.

47

53

59

The sum of these prime no. is = 159.

x ————— x

(C) Find the present age of man.

let the present age of man be = A

Given

Three years ago their ages were

$$\frac{A-3 + B-3 + C-3}{3} = 27$$

$$A+B+C-9 = 27 \times 3$$

$$A+B+C-9 = 81$$

$$A+B+C = 90$$

(i)

$$\frac{B - 5 + C - 5}{2} = 20$$

$$B - 5 + C - 5 = 20 \times 2$$

$$B + C - 10 = 40$$

$$B + C = 40 + 10$$

$$B + C = 50 \quad \text{--- (ii)}$$

~~By putting the value of equation ii)~~
in one

$$A + 50 = 90$$

$$A = 90 - 50$$

$$A = 40$$

Age of B

$$\begin{aligned} B + C &= 50 \\ C &= 50 - B \end{aligned} \quad \text{--- (ii)}$$