

1 / 202

Day: _____

Part-II

Section 1

Q.3

(A)

1. Introduction:-

According to Asian Development Bank, 2023 year was the hottest year in human history. It is the result of global warming which are the fruits of humans activity. Developing countries are facing this issue more seriously because of lack of funds, capacity building etc.

2. Major Hurdles in Developing countries:

a. Lack of funds for transition to renewable Resources

Developing countries face the global warming at higher level. Moreover, these countries face funds challenges for transitions to renewable resources. Pakistan is facing this crisis and floods, famine etc are results of global ^{warming}.

b. No legal sanctions on violations of COPs objectives

COP28 was held in Dubai Expo city and many decisions are taken. But, main question is failure of previous conference is that there is no legal sanctions on violations of COPs objectives. The result of this is seen in temperature increase.

c. Relys on Fossil fuels for energy production:

Almost all countries are totally or partially depend on fossil fuels for energy production. Burning of fossil fuels produces hazardous chemicals/gas such as NO_x , SO_x etc. These gases are responsible in increasing the temperature of the world. According to IPCC, the energy sector contributes 35 percent in global warming.

d. Lack of Multilateral Cooperation from Developed countries

Lack of multilateral cooperations towards the underdeveloping countries are hurdles in controlling climate change. The estimated loss is in between 275 billion dollars to 350 billion dollars but collection was only 700 Million dollars in COP28 Loss and Damage Funding.

B. Conclusion:

The climate change is the result of humans activities. But, it can be controlled through collective response and provides funds to underdeveloping countries because these countries face heavy damage. Moreover, equal distribution is compulsory among underdeveloping countries.

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(B)

## Balance Diet=

It is the diet which contains the right quantities of basic energy required components. If right quantities are not provided, serious health issues are the outcomes.

### Components of Balance Diet=

The main components of balance diet are divided into micro-nutrients and macronutrients.

Micro-nutrients  $\Rightarrow$  Carbohydrate, Proteins, Fats.

Macro-nutrients  $\Rightarrow$  Vitamins, Water, Minerals.

#### (a) Carbohydrates:

It is the micro nutrients which required in large quantity. It is essential for healthy nervous working system. It provides energy to the body. The needs of energy for the working of heart, kidney etc is fulfilled by carbohydrates. The sources of carbohydrates are wheat, milk, fruits etc.

#### (b) Proteins=

It performs the same function what carbohydrates. The sources of proteins are meat, fruits, milk, egg etc. Excesses in proteins lead to heart problems, and deficiency of proteins damage muscles, kidney etc.

#### (c) Fats=

They are sources of energy. They transport the fat soluble vitamins. Sources are milk, meat, oil etc.



(d) Vitamins =

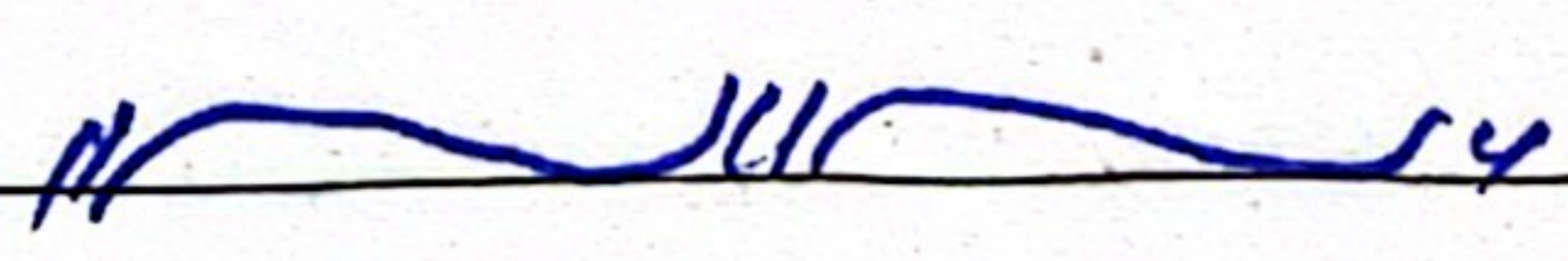
Vitamins are essentials for bones strengthening, skin and hairs strengthening, blood clotting etc. The sources of vitamins are fruits, vegetables, milk, egg, sun light, citrus fruits for vitamins C, etc. Deficiency of vitamins lead to health problems. Vitamin A deficiency leads to night blindness.

(e) Water =

Water is the chief-constituent of body. It is required for body temperature maintenance, for lubrication purpose and fulfil the other needs. Water protects the human from dehydration.

(f) Minerals =

Minerals are essentials for bones, teeth, strengths. They are essential for blood clotting, healthy nervous system, muscles building etc. Main minerals are Potassium, Calcium, Sodium, Lead etc. Sources of minerals are milk, meat, Banana, fruit etc.





(d)

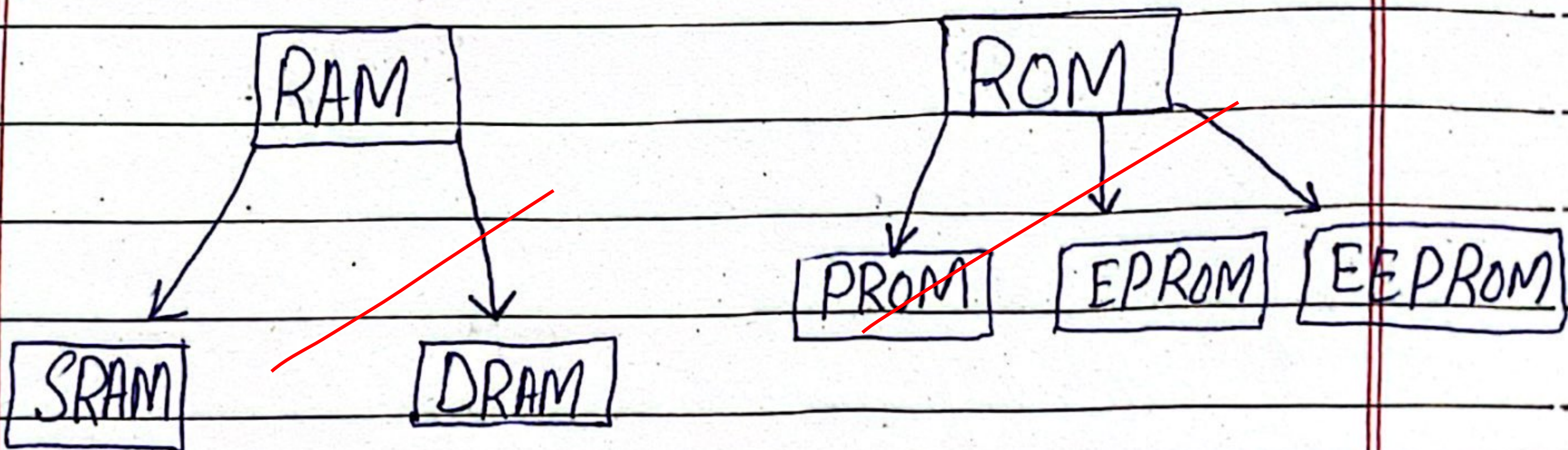
RAM =

RAM stands for Random Access Memory. It is the memory which computers used during processing and also it store data temporary.

ROM =

ROM stands for Read only memory. It is the memory which is used only for reading and permanent purpose.

Types of ROM and RAM =



- SRAM ⇒ It stands for Static Random Access Memory.
- DRAM ⇒ Dynamic Random Access Memory.
- Both stored the data when computer is ON.
- PROM ⇒ It stands for Programmable Read Only Memory.
- EPROM ⇒ Erasable Programmable Read Only Memory.
- EEPROM ⇒ Electrically Erasable Programmable Read Only Memory. (All store data permanently)



## Difference Between

### RAM

- It stands for Random Access Memory.
- It only store data when power is on and lost data when power is off.
- It can store data upto 40MBs.
- It is volatile memory.
- It is fast memory storage.

### ROM

- It stands for Read Only Memory.
- It stored the data permanently and not less when power is off.
- It can store data in GiB.
- It is non-volatile memory.
- It is usually slow memory.

(c)

### Artificial Intelligence=

It is the programming that performs the same functions what a human mind performs. In other word, it is the advanced brain of computer.

### How Artificial Intelligence Works=

The human brain is working using neurons and similarly, Artificial Intelligences using machine language for performing of specific task. The machine language is in binary form i.e 0 and 1.



# Role in Revolutionized today's World

## 1. In Education=

The Role of machine learning is not neglected in the education field. The promotion of Chat GPT, the Grammar checker etc are all operating on machine learning. Students not only get helps in their studies but also learned skill through Chat GPT and others.

## 2. In Industry=

The Role of AI and machine learning is very crucial in industry. AI is used in industry and performed all work without humans help. It is machine learning beyond this advancement. The autopilot is the best example of machine language. About 1 million labour lost job because of it.

## 3. In Social Life=

The role of AI in social life is very important and it can be seen in these days. Artificial intelligent in social media manipulate the persons opinions and also used for hunting purpose. People can find and purchased any thing through AI. All this technology is based on machine language and coding. The coding is working according to the instructions given by humans.



Section II

Q6

(a)

First Candidate votes = 15000

Second Candidate votes = 10000

Third Candidate votes = 8000

$$\begin{aligned} \text{Total number of votes} &= 15000 + 10000 + 8000 \\ &= 33000 \end{aligned}$$

Percentage of winning candidate:

$$= \frac{15000}{33000} \times 100$$

$$= 45.45\%$$

(b)

Ratios of Angles of triangle = 3:4:5 =  $\frac{3+4+5}{12}$

Sum of Angles of triangle = 180

One ratio of about on total

$$= \frac{180}{12}$$

$$= 15$$

$$1^{\text{st}} \text{ Angle} = 3 \times 15 = 45 \text{ degree}$$

$$2^{\text{nd}} \text{ Angle} = 4 \times 15 = 60 \text{ degree}$$

$$3^{\text{rd}} \text{ Angle} = 5 \times 15 = 75 \text{ degree}$$



(0)

The Ratio of present ages of  $\frac{A}{B} = \frac{6}{7}$

let Age of A  $\Rightarrow x$

let Age of B  $\Rightarrow y$

The Present age Ratio is:

$$\frac{x}{y} = \frac{6}{7}$$

$$\Rightarrow x = \frac{6}{7}y \rightarrow (1)$$

Age after five year Ratio is:

$$\frac{x+5}{y+5} = \frac{7}{8}$$

$$8(x+5) = 7(y+5)$$

$$8x + 40 = 7y + 35$$

$$8x - 7y = 35 - 40$$

Put eq (1)  $\Rightarrow$

$$8\left(\frac{6}{7}y\right) - 7y = -5$$

$$\frac{48}{7}y - 7y = -5$$

$$\frac{48y - 49y}{7} = -5$$

$$-y = -5 \times 7$$

$$-y = -35$$

$$y = 35$$

Present Ages are:

$$A = \frac{6}{7}(35) = 30 \text{ years} \quad \text{Ans}$$

$$B = 35 \text{ years}$$



(c)

One group members are = 4 Boys and 6 girls

No. of girls = 402 girls

No. of groups of 6 girls =  $\frac{402}{6}$ <sup>17</sup>  
= 17 groups.

No. of Boys for 17 groups =  $17 \times 4$

= 68 Boys

Total = 68 Boys + 402 girls.

= 470

Groups = 17

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Q8 (A)

let the three consecutive odd numbers are $n, n+2, n+4$.

According to conditions.

$$n+n+2+n+4=273$$

$$3n+6=273$$

$$3n=267$$

$$n = \frac{267}{3}$$

$$n=89$$

$$\text{1st odd number} = 89$$

$$\text{2nd odd number} = 89+2 = 91$$

$$\text{3rd odd number} = 89+4 = 93$$

(B)

$$(i). 4, 16, 36, 64, 100, 144$$

$$(ii). 30, 29, 27, 24, 20, 15$$

$$(iii). 4, 7, 15, 25, 37, 51$$

$$(iv). 0, 2, 6, 12, 20, 30, 42$$

$$(v). 48, 24, 72, 35, 408, 162$$

(C)

• THRSI → SHIRT

• HIODALY → HOLIDAY

• SCHAMOT → STOMACH

• GINDREA → GARDEN

(d)

let Sara Age = x

Then

Sara's Mother Age = $6x$

Her Brother Age = $2x$

According to conditions:

$$x + 6x + 2x + 9 = 72$$

$$9x + 9 = 72$$

$$9x = 63$$

$$x = 63/9$$

$$\boxed{x = 7}$$

Now, Sara Age \Rightarrow 7 years

Mother Age $\Rightarrow 7 \times 6 = 42$ years

Ali Age $\Rightarrow 2 \times 7 = 14$ years

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Q4
(a)

Solid Waste Management

The management for collection of waste, segregation, and dumping of waste is known as solid waste management. It is under the government or private sector.

Characteristics of Solid Waste Management

Collection Points: The collection points for waste must be at the center of city. No school, hospital and library within radius of 6 km.

Transportation: Collection is important and difficult task. It must be done with small vehicles to large vehicles.

Segregation: At collection point, the segregation process performed.

Methods Employed in Solid Waste Management

After segregation, the waste is dumped in many ways.

1. Open Dumping:

It is an old technique, and unsustainable technique.

This technique is not in society favour because waste is dump openly outside the city. It becomes source of pollution.

2. Composting: In this type, the waste is converted into useful fertilizers. In this

technique, waste is dumped in such a way that organic waste which is known as compostive is produced.

The compostive is used as a fertilizer.

3. Incineration:

In this technique, the waste is incinerated in an incinerator which is operated at 200 to 300°C. It is mostly suitable for small institutional or hospital waste disposal process.

4. Land filling:

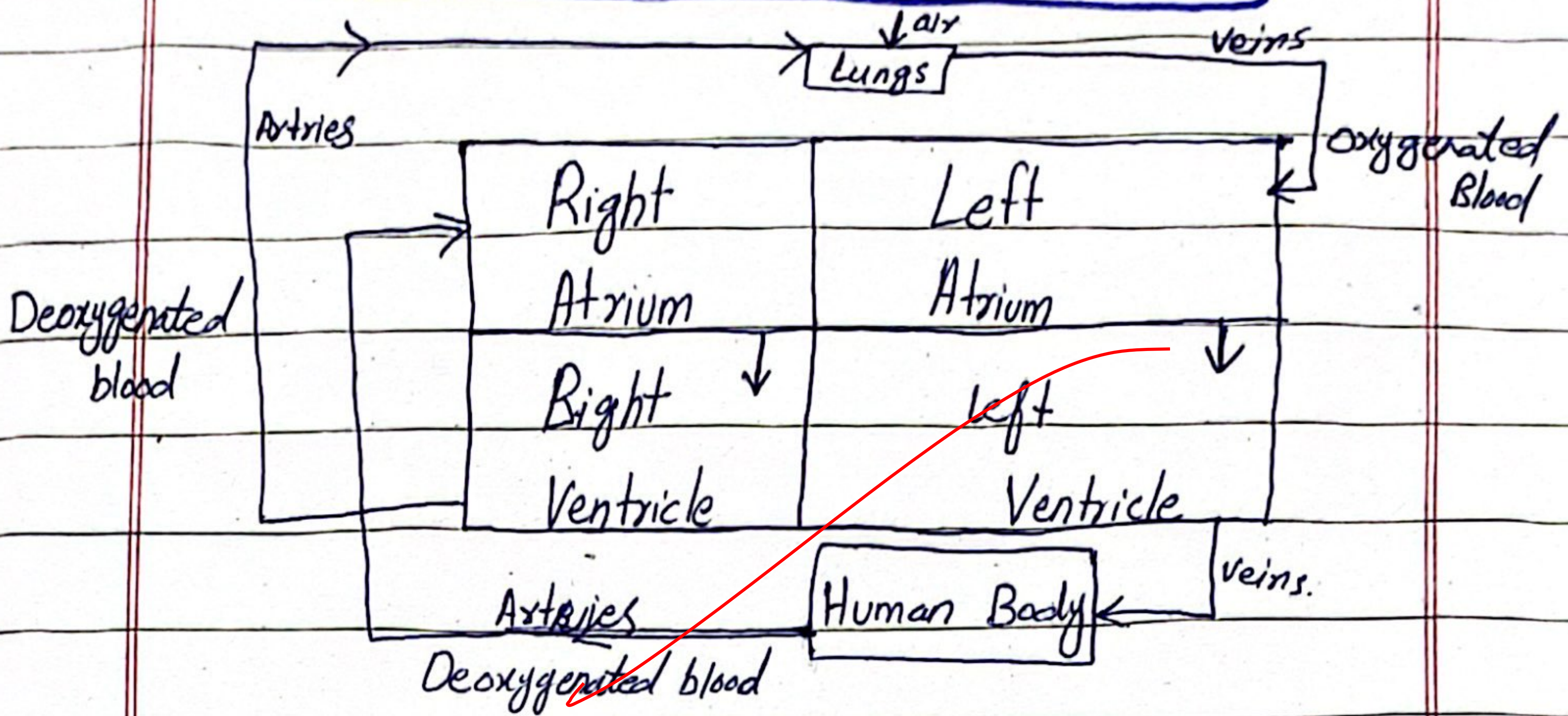
In this process, waste is desposed in the land. The land which is used for this purpose must be away from city and houses. Similarly, make sure that waste not interact with the ground waters.

"~~~~~" (b)

Human Heart

Human heart is important organ for the circulation of blood. It's importance in human body is determined that the pumping of heart is essential for survival. The human heart pump 74 times in one minute, and it take 5ml blood in one pumping action. It is divided into three parts. Moreover, human heart is operating oxygenating and deoxygenating blood at the same time.

Blood Circulation in Human Body



Working Principle of Heart =

The blood is first transfer to Right part of the blood through arteries and this blood is deoxygenated. After Right Atrium, blood is moved towards Right Ventricle and some functions are performed on it. Then this blood is carried through arteries to the lungs. During transportation, blood pressure is high. In lungs, the blood is oxygenated in the alveoli and carried 4% oxygen in the blood. This blood is then passed through left Atrium and then through left ventricle. After left ventricle, blood is circulating through whole human body. AV nodes are used for electric charge. This process is continue until the pumping of heart becomes permanently stopped.

(d).

Microwaves

- Microwaves has more energy and frequency than radiowave.
- Microwaves are used in ovens for heating the food.
- Microwaves are used in speed checking cameras
- Microwaves have high wavelength after radio waves.

Ultraviolet waves=

- Ultraviolet waves have more energy and frequency than visible light.
- They are used in materials which convert UV light into visible light.

X-Rays=

- More energy and frequency than all except Gamma rays.
- X-Rays are used in body scanning operations.
- X-Rays are used to visualize the internal structure of the atoms.

(C)

Myopia=

It is also known as nearsightedness. It is a condition in which an image of a distant object becomes focused in front of the retina, making distant objects appear out of focus.

Hyperopia=

It is also known as farsightedness. It is a condition in which an image of a distant object becomes focused behind the retina, making objects up close appear out of focus.

Major Parts of Human Eyes=

1. Cornea
2. Lens
3. Retina
4. Iris
5. Optics nerves
6. Sclera
7. Choroid