QUESTION # 04

Answer # 01 (A)

Heart is a vital organ in human body. It is a fist size organ responsible for circulation of blood. It pumps 2000 gallons of blood per day by beating 100,000 times per day. Normal heart beat is around 70 - 90, 72 per mint is ideal.

- **Role of Heart**

Heart receives deoxygenated blood and by passing it from right artrium and right ventricle. It is responsible for sending the oxygenated blood to other parts via different arteries.

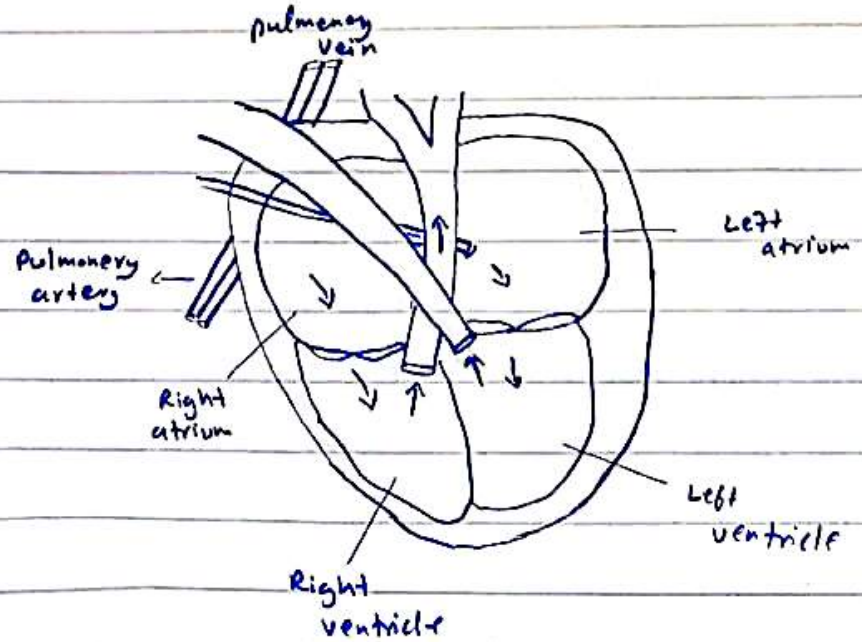
- **Role of Blood vessels**

Blood vessels provide connection between heart and other parts of the body and carry blood for them.

- **Functioning of Blood vessels and Heart**

Pulmonery artery and pulmonery vein pases and transport deoxygenated blood to the right artrium of heart. It is the first Chamber of all

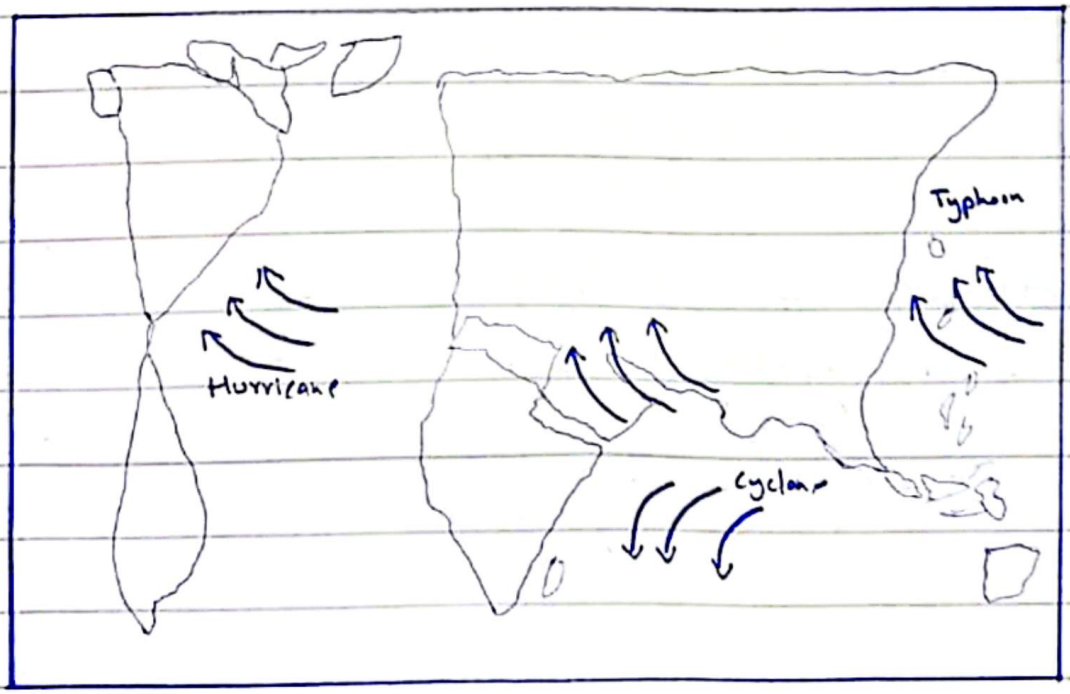
all four chambers of heart. The blood moves next to (pulmonx rigtat ventricle, where tricuspid valves stop and hinder the back flow of blood. Blood then send to the dungs where it take oxygen and remove carbondioxide. The oxygenated blood enters in the left atrium of the heart. The bicuspid valves separate left atrium and left ventricles, also prevent back-flow of blood. From left ventricle blood is transported to the rest of body via aorta. Vessels carry deoxygenated blood towards heart and arteries carry oxygenated blood away from heart



Answer # 02 (B)

Cyclone

Cyclone is a natural phenomenan with its origin on water. It moves anti-clock wise in North and clock wise in south. It has different names according to origin. It is known as 'Hurricane' in North towards USA, 'Typhoon' near Japan and 'cyclone' in Indian ocean and south Pacific.



Formation of Cyclone

It is formed on large water body, when air pressure is low

and temperature rises to 26°c. The vapours and hot air moves upward. It creates a vaccume which is filled by cold air. The hot air gain more energy and create more space for cold air. The speedy shift between the two leads to a disasterous circular moving cyclone. In USA, average 60 people dead per year due to cyclone.

It destroys whatever comes in its way when it reaches near shore. However, it looses its energy on land and also causes distruction and flood.

Answer # 03 (c)

Carbohydrates

1- Carbohydrates help in functioning of body by providing sugar and support nervous system.

2- It is stored in form of glycogen in animals and starch in plants.

3- It helps in formation of new tissues. ~~It stor~~ (It makes cell wall in plants.)*

Proteins

1- Keratin protein help in formation of nails and hair.

2- It involves in forming different structures.

3. It forms cell wall in plants

Fats

1- Fats / lipids store different minerals and vitamins in body.

2- Brown fat provide heat and manage the temperature of to the body.

3- It stores vitamin A, D, E, K, and use them when needed. Examplia gratia, vitamin K is essential for blood clotting.

Calcium

1- Calcium provides strength to the bones and maintain strugcture of body.

2- It provides strength to the muscles.

Iron

1- Iron is a source of energy and it is present in green vegetables.

2- It participates in functioning of brain and fight with fatigue and laziness.

Answer # 04 (D)

Remote sensing:

It is a technique to achieve information(gaining) about different objects. Every surface reflect, absorb or emit energy differently. In this process, energy is applied either natural (sun) or artificial and sensor is use to detect the energy absorbed or reflected. It consists of energy source, sensor, graph or picture formation, analyzing and solution.

Remote sensing and environmental purpose

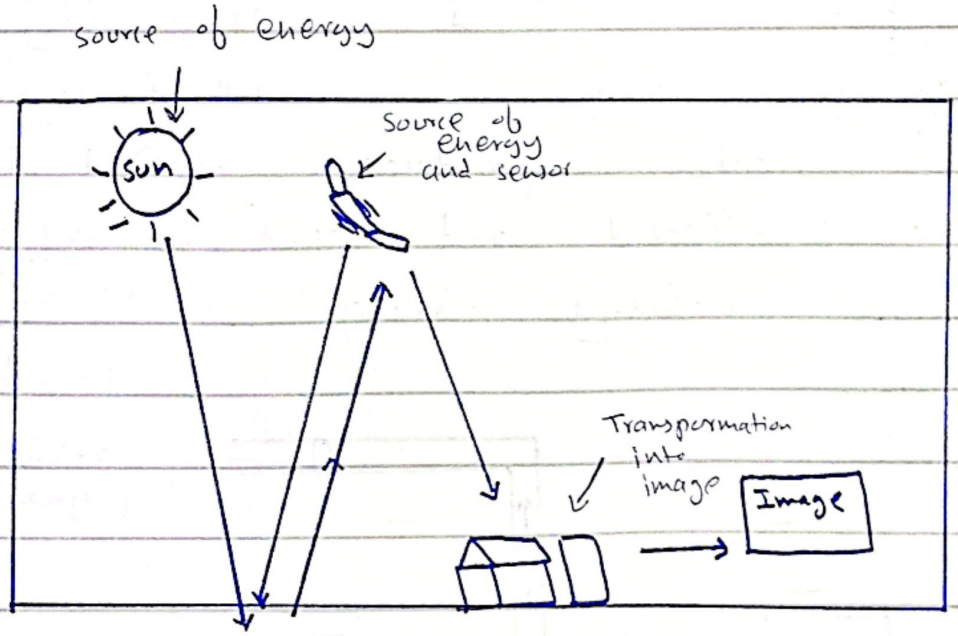
Remote sensing is used for different environment related purpose.

In Forestory: It can detect thickness or deforestation easily to help in policy formation.

Disaster management: It is used to analyze circumstances after flood, earthquake and devise plan accordingly.

Hilly areas: It is useful for difficult terrains, which can not be analyzed

easily and specifically on hilly areas which are usually not feasible for research.
Soil degradation: For large agriculture land, it detects the condition of soil. It help in finding soil degradation and soil erosion.
It can also be used to detect harmful radiations, without human intervention and with halmful radiations.



QUESTION # 05

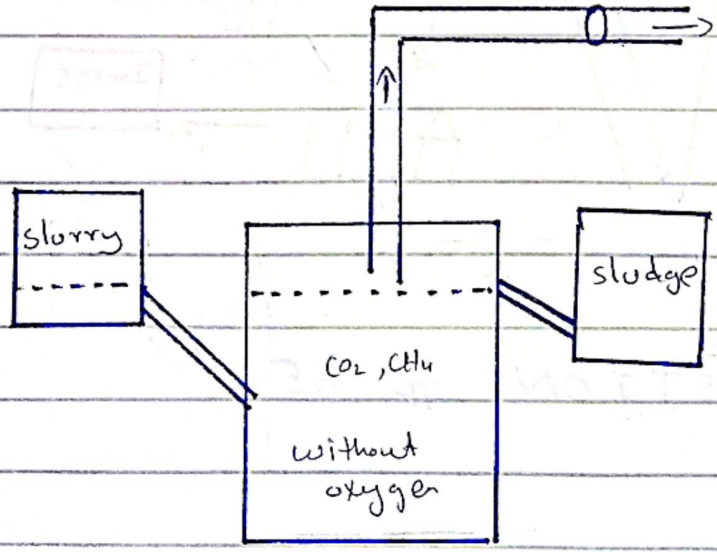
Bio fuels:

Bio fuels are the fuels which are organic in nature usually, they

are used to make energy.
Biofuels include all living manes, it can be of animal waste, vegetable, livestock etc.

Production of Biodesel and Biogas

Biodesel and biogas both are generated by using organic mass of animal or plant.
Biogas is produced in vaccum by adding slurry and without oxygen the reactions produces gas. It is then collected and used for different purpose including cooking



Biodesel is also produced by using biological material. Biocthanol contains 2/3 of the energy given by diesel. Brazil and USA are major producer of it. It is mixed with diesel to reduce green house gas emition.

D)

Plastics

Plastics are the long carbon chain connecting, polymers. They are carbon in nature. One type of plastic even contain 200,000 carbon atoms chain.

Application / Properties

1- They are rust free
2- Plastics are electric insulator
3- These are checap to produce
4- They can be transparent.
5- Plastics come in many shapes and colours.
6- Plastics can be reused by heating, reshaped indefinately

Environmental Risks

1- Plastics can not degraded like other organic molecules.

2- Plastics are major source of pollution. eg: oceans are polluted with plastics.

3. Harmful chemical used in its construction can be added in food and lead to diseases.

4- Plastics polluting water and creating water scarcity.

5- It is harmful for wildlife and ~~ocean~~ fishes in water

c)

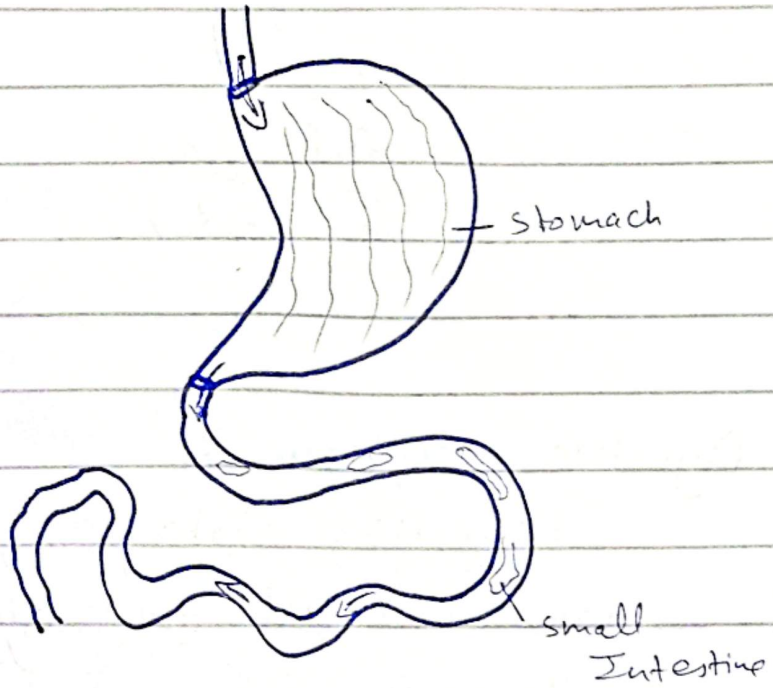
Digestive System

Digestive system is the collection of organs involved in digestion of food. Stomach is a J-shaped organ which is mainly responsible for digestion.

Role of stomach and small intestine

Stomach receives food from oesophagus. The walls of stomach produces chemicals which digest the food.

The movement of walls of stomach and the liquid soften all kind of food. It is too powerful to dissolve even hard material taken in food. Small intestine is responsible for the absorption of liquid from the food. The major absorption takes place here. It has few parts including, dedeum, Jejom, Ileum.



QUESTION # 07

Answer

A)

40 % = 2/3

40 = 66.6

40 : 66.6

20 : 33.3

C)

Son = x

Father = x+24

In 2 years:

son = x+2

Father = x+24+2

Equation:

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

$2x+4 = x+26$

$2x-x = 26-4$

$x = 22$

Present age of son = 22

D)

Rashid = 6hr -32 pg = Pg. 5.33 per hr

Kamran = 5hr -40 pg = Pg. 8 per hr.

Total page = 110

Kamran pg per hr + Rashid pg per hr

8 + 5.33 = 13.33

Collectively they take almost 8 hr to completed 110 page.

Kamran writes = 64 pg

Rashid writes = 42.64

106.64

so they will take 8 hrs and few minutes to complete 110 page.

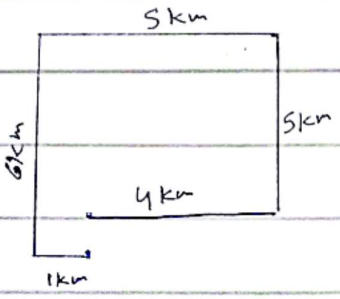
Question # 08

A)

D B A E C

So, A is in the middle

B)



1) 1 km away from the place started
2) While finishing, running towards North
3) After second turn, running in south.

4) Run west to reach starting point.

C)

a) Shirt

b) coat

d) skirt

D)

to clear triangles. while, total 18.