

SECTION - I

Ans # 03

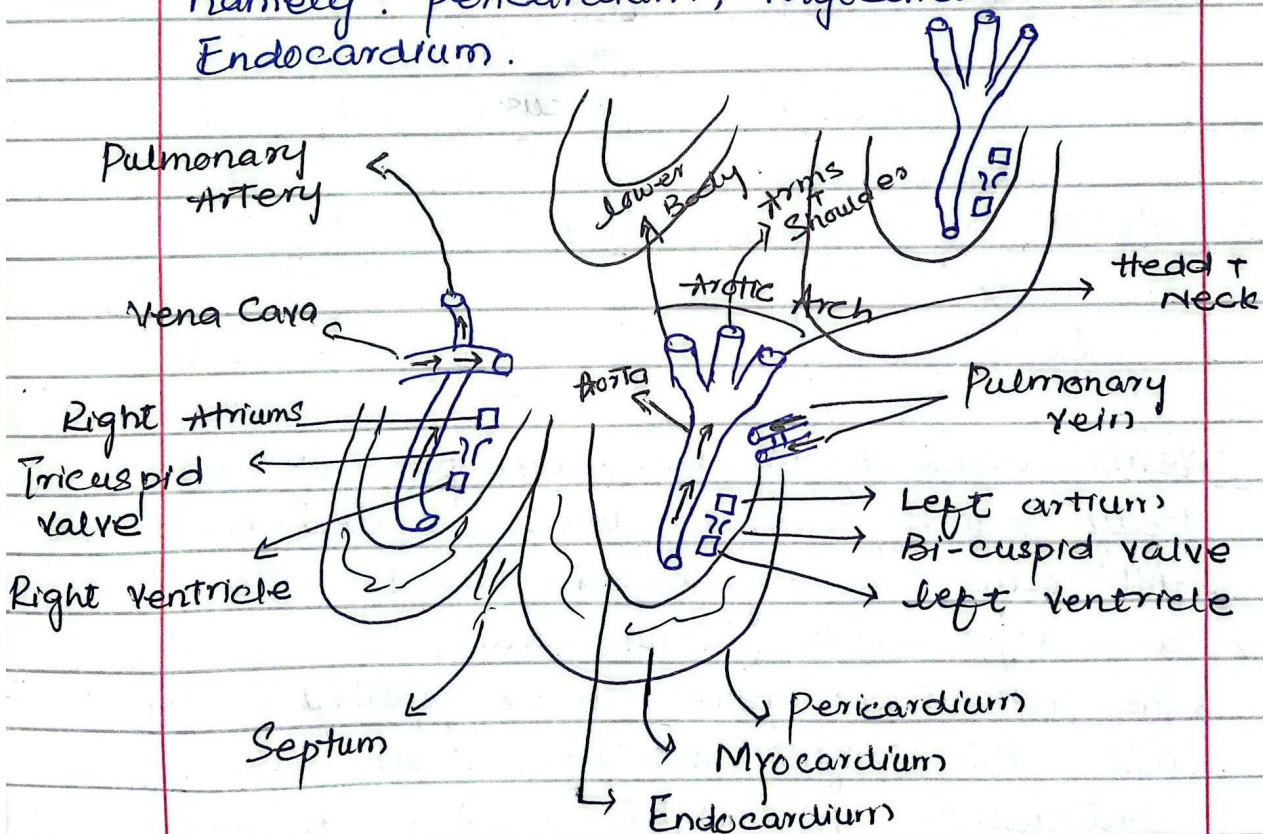
a.

HUMAN HEART:

Human heart is a strong muscular organ which pumps the blood in the body. It consists of four chambers, which pump the blood through their constant contraction and relaxation.

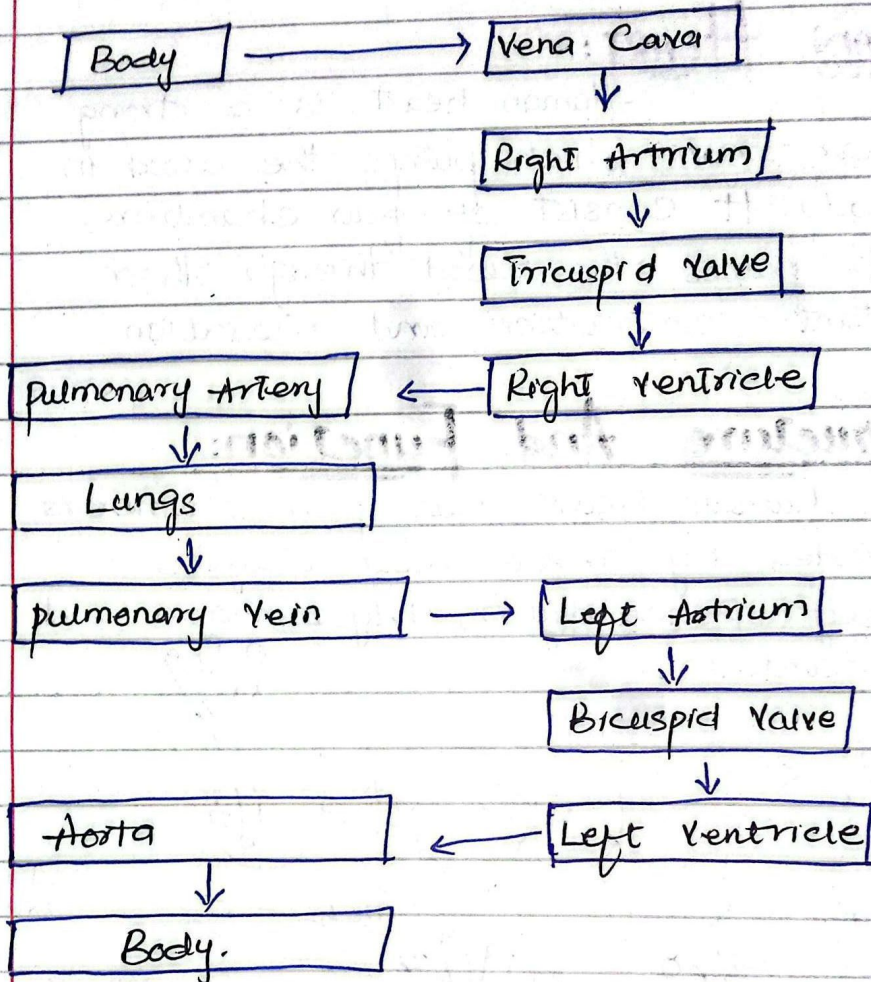
Structure And Function:

The human heart has four chambers surrounded by three main layers namely: Pericardium, Myocardium and Endocardium.



Human heart accept de-oxygenated blood from whole body and pumps oxygenated blood to whole body.

Cardiac Cycle And Blood Circulation



- Vens arises from the each part of the body which carries de-oxygenated blood.
- All vens ^{pours} de-oxygenated blood into a larger ven (Vena Cava)
- The Vena Cava pours de-oxygenated blood into the right atrium, then the contraction of right atrium pushes the blood towards the tricuspid valve (which prevent the back-flow) and the blood enters into the right ventricles

- The contraction of right ventricle pours de-oxygenated blood into the pulmonary artery which ^{carries} the blood towards lungs for oxygenation. After oxygenation, the pulmonary veins carries blood towards the left atrium.
- The contraction of left atrium pushes the blood towards bi-cuspid (which prevent the back-flow) and blood enters into the left ventricle.
- The contraction of left ventricle pours blood into a larger artery Aorta. Then Aorta takes this blood towards the body. Aorta has been divided into three further parts which carry blood toward (head + neck, Arms + Shoulder, lower body).

b-

BIOFUELS:

Biofuels are such fuels, which are derived from Bio-mass (Biological material). This fuel is produced through process of transesterification. It reduces emission of greenhouse gases as this fuel emits lesser quantities of CO_2 , CO and SO_2 . The major raw materials used in biofuel production are:

- plant's waste - Crop waste - Animal waste
- Food waste - Oil rich sources (Mustard)

LUCKY

Three types of products produce during this process.

→ Bio-Diesel - Bio Gas - Bio-ethanol.

Production Of Biofuels.

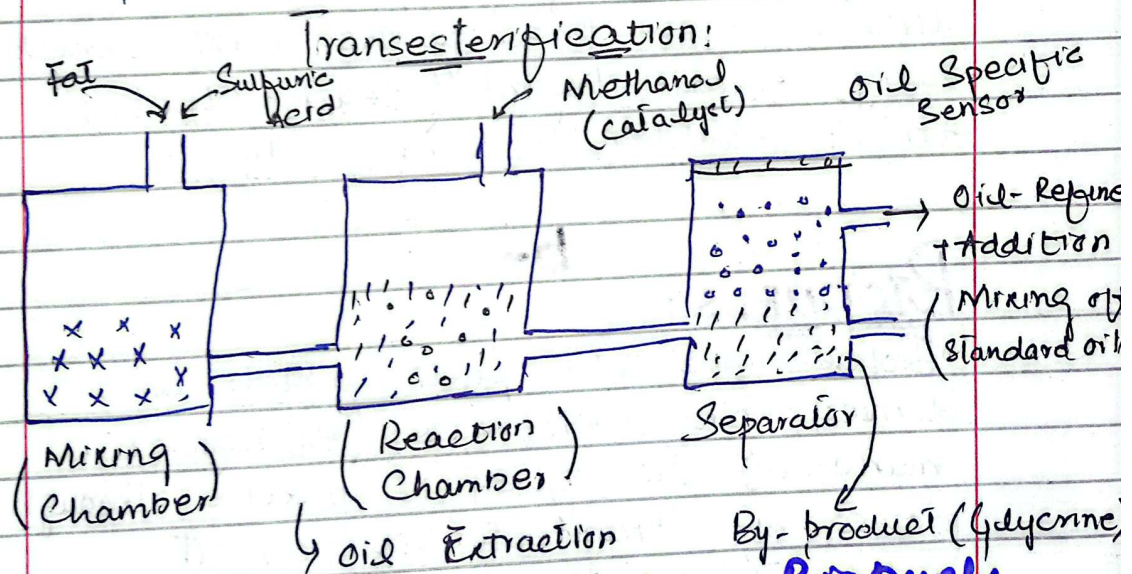
a) production of Bio-Diesel.

→ Bio-Diesel is alternative to normal diesel and is environmental friendly choice.

→ To produce the Bio-Diesel oily waste is use as raw material. And also

→ requires multiple chamber equipment.

→ This fuel can used in Transport Generator and Industrial Equipments.



Advantages Of Using Biofuel:

→ Burning of Bio-fuel is more clean as compare to other fuels (petrol, Diesel Natural Gas).

→ It emits lesser quantities of CO_2 , CO , SO_2 .

- ⇒ Pro Using Bio-fuels help in controlling the environmental problems i.e. Air pollution, Smog, Acid Rain, Global warming and Climate Change.
- ⇒ It is less expensive comparatively.

Disadvantages:

- ⇒ Limited supply of raw materials
- ⇒ Modification requires in current engine design for the use of Bio-Diesel.
- ⇒ production of Ethanol can contribute toward food insecurity. As, raw materials use in it (sugar rich waste).

d. Structure Of Interior Earth:

Earth structure is like a boiled egg. There are three layers of Earth.

i- Earth Crust ii- Mantle iii- Core.

Earth Crust:

- It is the top most layer of the Earth.
- It contains silicates. (Compound of Sand).
- Depth of Earth Crust is 70-80 km.

Mantle:

- This layer of Earth also contains silicates.
- Depth of Mantle is 2900 km.

Core:

- ⇒ This layer contains metals.
- ⇒ Depth of core is 6400 km.

SECTION - II

ANS#05

a)

Data:

Students below 8 years of age = 20%.

Students of 8 years of age = 48

Students above 8 years of age = $\frac{2}{3} \times 48$

$$= 32$$

Total Number of Students = ?

Solution:

As, Student of 8 years and ~~below~~ ^{above} 8 years = $48 + 32$

$$= 80$$

This is 80% of whole class.

If 80% student = 80

then, 20% student = 20

Total Number of students = $80 + 20$

$$\boxed{= 100}$$

b.

Rashid age = x

Father age = $3x$.

After 8 years, Father - age = $3x + 25$