~(Test 4)~ 19/4/21

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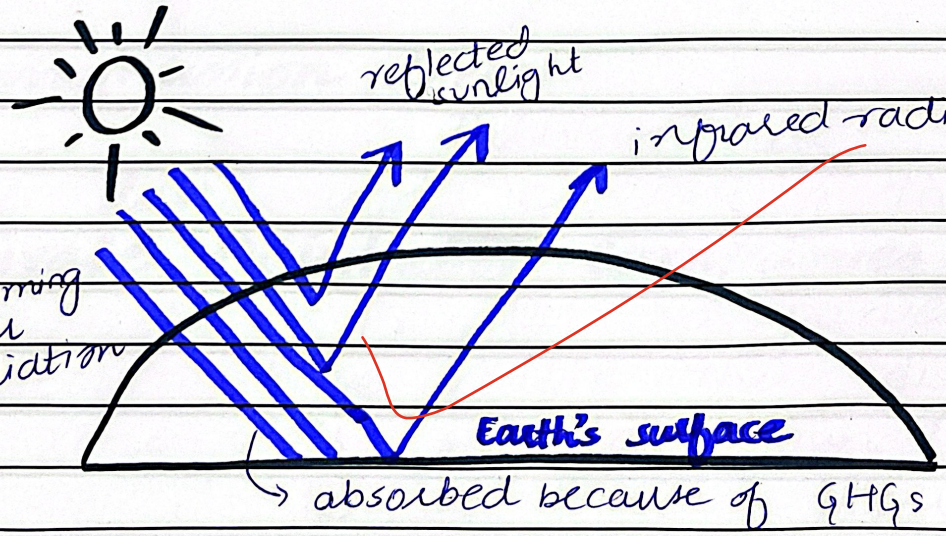
~(Q#01)~

(a)

Enhanced GHE in context of global warming

When sunlight reaches the Earth's surface, some of it is reflected back into the space, but some of them are absorbed into the Earth's surface and then released in the form of infrared radiation, but because of the addition of Greenhouse gases in the atmosphere, these gases ~~absorb~~ does not let the sunlight escape hence traping it like a sheet of greenhouse. This is called **Enhanced Greenhouse Effect**. This Enhanced GHE is causing global warming. According to NASA, 1.5°F temperature has raised since the pre-industrial levels because of Enhanced GHE.



(2)

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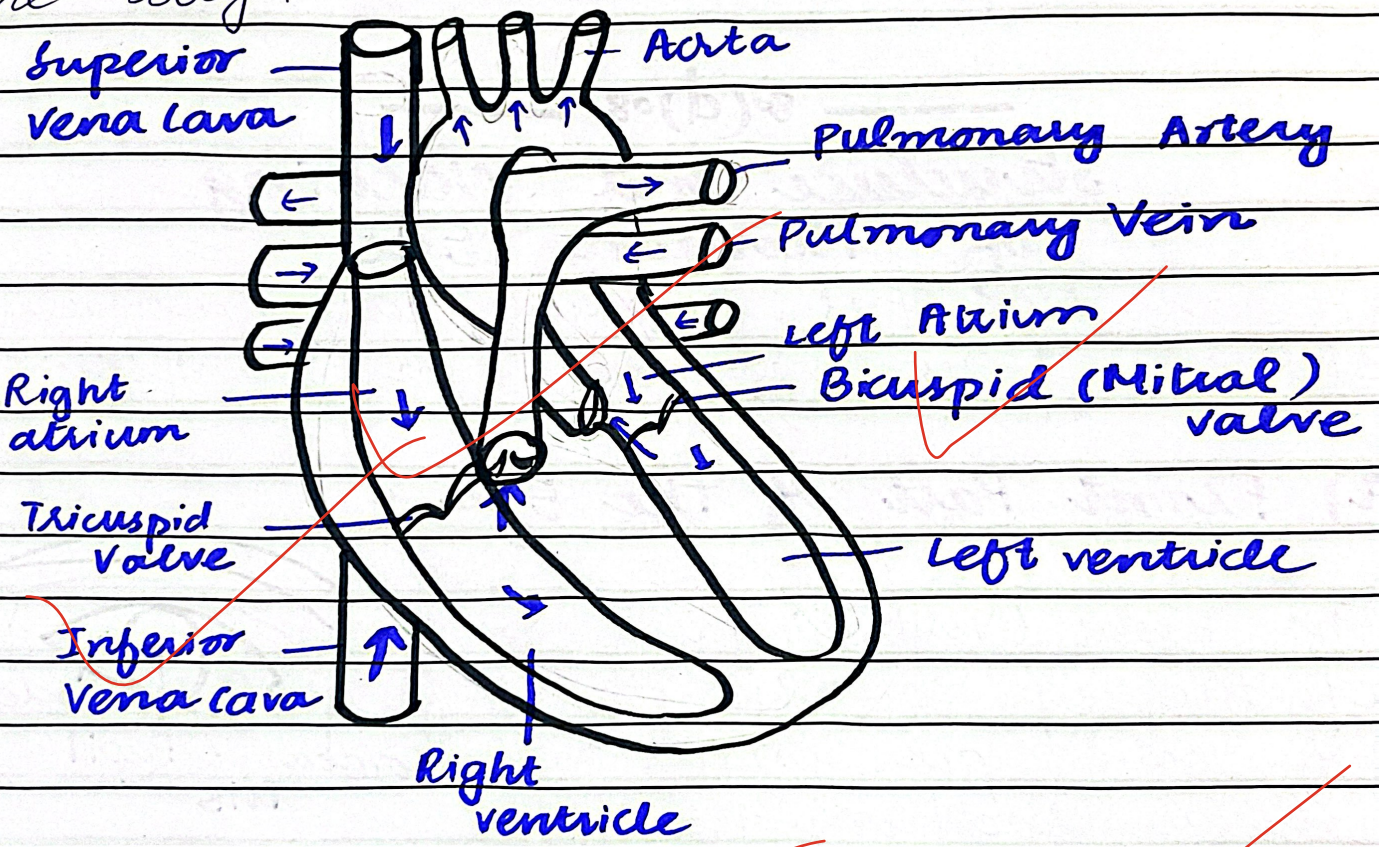
8(b)8

Role of Human Heart

Human heart is a fist size muscular organ responsible for pumping blood throughout the body: It pumps about 2000 gallons of blood and beats around 100,000 times a day. Without heart, a human ~~would~~ will not survive even a minute. Here is how human body circulate blood throughou the body.



Superior and Inferior Vena cava bring deoxygenated blood from the upper and lower parts of the body. The blood then ~~pass~~ passes to the right atrium which then propels blood into right

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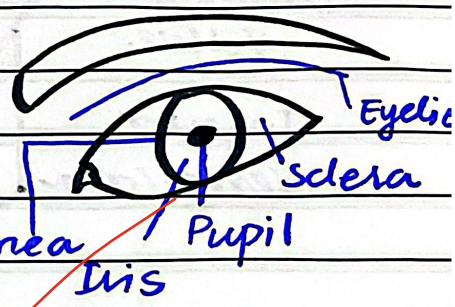
ventricle through the tricuspid valve. Right ventricle then pumps blood to the lungs by using pulmonary artery. Lungs then send the oxygenated blood to the left atrium by pulmonary vein which then pass the blood to ~~right~~ left ventricle through bicuspid valve. Left ventricle then pumps blood to the entire body through aorta.

8(d)08

Structure and Working of Human Eye

Human Eye has slightly asymmetrical shape. It is one inch in diameter.

(A) Front Part of the Eye



The Front (Visible) part of the eye consists of iris, pupil, cornea, sclera and conjugtiva.

Iris is the coloured part of the eye who controls the size of the pupil. In dark, it ~~cor~~ relax the pupil and it elongates while in sunlight, it contracts the size of the pupil. **Pupil** is the small

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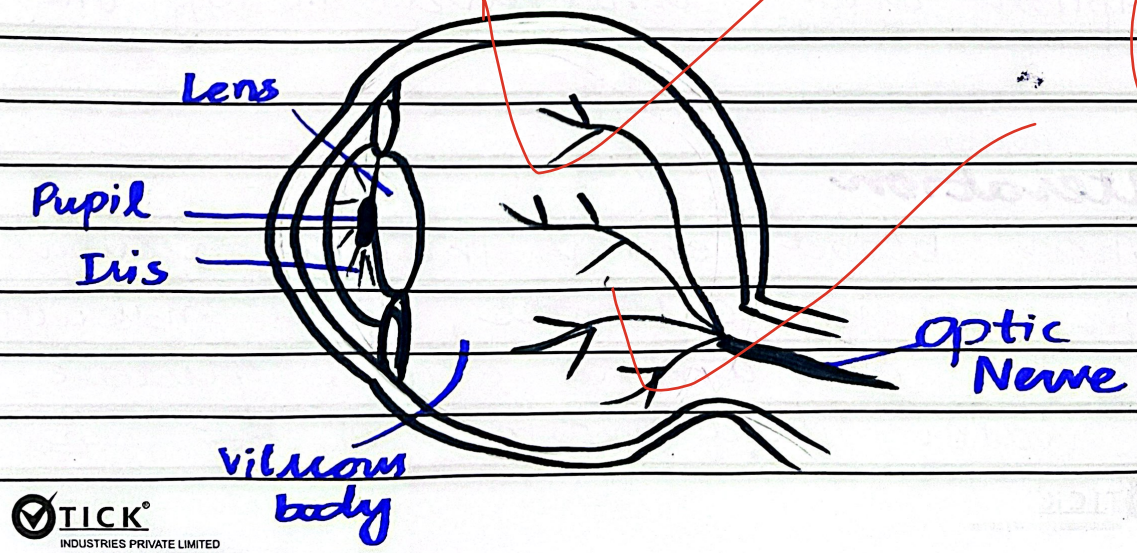
black opening in the center of the iris. It regulates the light entering the eye. **Cornea** is a transparent dome which covers the iris and the pupil. **Sclera** is the white part of the eye which turns ~~white~~ red, ~~in the pic~~ during crying. Conjugtiva covers the sclera. It provides lubrication to the eye through tears and mucus.

(B) Back Part of the Eye

It consists of lens, vitreous body, retina, macula and optic nerve.
Lens are used to converge light onto retina. Retina consists of rods and cons. Rods are responsible for night and peripheral vision while cones are responsible for colour vision. Retina converts light signals to electrical signals which are then carried to the brain by optic nerve.



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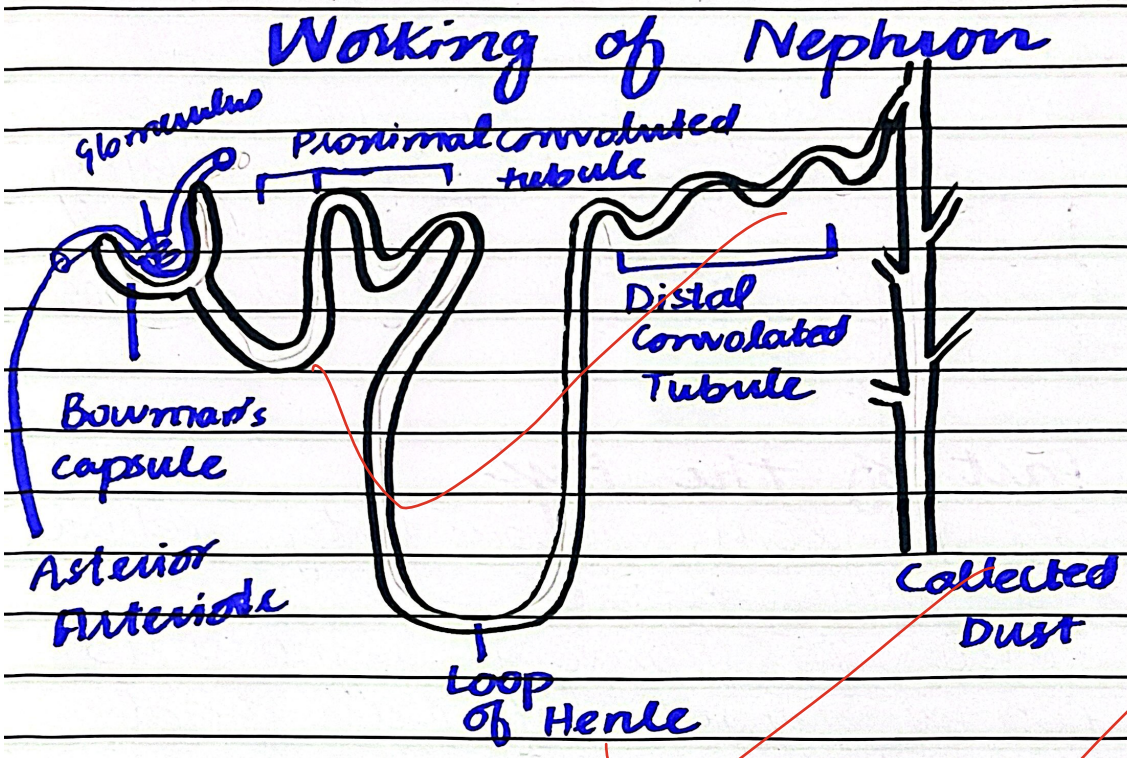
~ (Question 3) ~



~~Blood ent~~ Nephron is the functional unit of kidney. There are about one million nephrons in human body. ~~Blood enters~~ ~~the~~ Nephrons performs four main ~~things~~ functions - filteration, secretion, reabsorption and concentration of ~~uri~~ urine.

(1) Filteration

When blood enters the glomerulus through ~~a~~ afferior arteriole, extra molecules ~~like~~ such as amino acids, glucose, salts, water, urea (waste) is ~~removed~~

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filtered through it because of high pressure. The filtered waste is called glomerate filtrate.

(2) Reabsorption:

Proximal convoluted tubule then reabsorbs some of the molecules into blood. In the Loop of Henle, in the downward limb and upward limb, salt and water is reabsorbed.

(3) Secretion:

Extra ions are secreted in the Distal convoluted tubule. It depends on the hormone (ADH). If body needs water, ADH is released less and urine is more concentrated because water is absorbed.

(4) Concentration of Urine

In the final stage, urine is called and is send to renal pelvis,

Glomerulus

↓ Filteration

PCT

↓ Absorption

Loop of Henle

↓

DCT (secretion)

↓

Collected Duct

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burning of fossil fuels, industrial emission and from vehicle exhaust.

Effects: Acid Rain and Smog

—— 8(b)8 ——

Effects of Smog: Smog causes breathing problem. It can causes invitation to eyes and lungs as well. Smog disrupts the day-to-day activities. Schools, offices and colleges get closed due to severe smog. It can also cause accidents.

Effects of Acid Rain: Acid Rain corrodes metals. It can also make the ocean acidic which will be harmful for marine life. Moreover, it effect monuments. Taj Mahal is the perfect example of it.

Solution to Smog and Acid Rain

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smog towers should be installed which can absorb smog. Similarly, chimney lined with asbestos can be used for acid rain. Moreover, countries need to shift to renewable energy sources. Use cars with catalytic converters. In addition to this, one should reduce reliance on fossil fuel

Q(c)

Global Warming: A Threat

Global warming is considered a threat because of the following reasons:

(1) Increasing Disasters: Increase in temperature leads to rise in sea levels which may cause floods. Cloudbursts are becoming increasingly common because of ~~floods~~ rising temperature levels. Moreover, wildfires and avalanches also increase because of global. All of these disaster are threat to human life

(2) Human Health: Because of rising temperatures, heat waves and heat

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strokes are also became increasingly common.

(3) Glacier Melting: Glaciers are freshwater reserves. Because of rising temperatures, glaciers are also melting at a faster rate.

—— 3d(d)28 ——

Production of Biofuels

Biofuels are made up from biomass such as algae, woods and foodcrops. There are four generation of biofuels which are produced by different products.

First generation biofuels are made grown on farmland. These food crops contain starch, sugar and vegetable oil which is then converted to biodiesal or biocthanol through transisterification.

Second generation biofuel are made from woody plants or waste.

Similarly, Third generation of biofuel is made from algae grown on farmland.

Fourth generation biofuel is genetically engineered.

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Advantages of Biofuel

Biofuel reduces waste, landfill and greenhouse gas emissions. Moreover, there is no need to change the machines or engines because biofue can be used directly in it. In additi to this, it is biodegradable.

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