be in discussion class for detailed review.....

Date

Test -2

General Science

M. Mahroz Adan (001)

Question no 1 :-

Answer (a) :-

Human heart

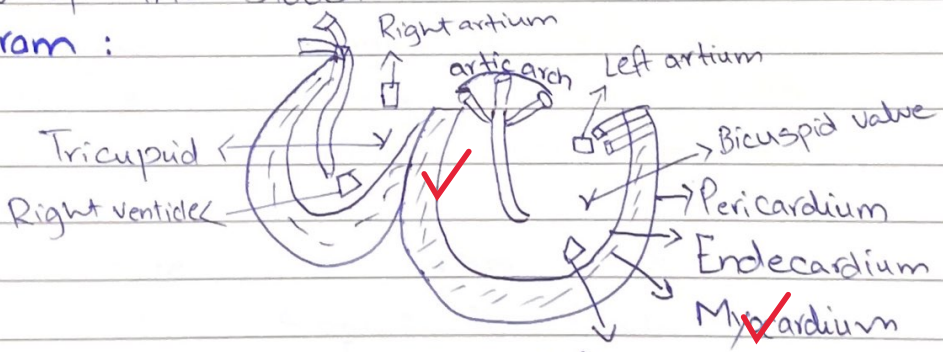
Human heart is a Strong muscular organ which pumps the blood across the body. It has been surrounded with three main layer Pericardium , Myocardium , and Endecardium. The heart possess four chambers in it

1) Right Artium
2) Right Ventricle
3) Left Artium
4) left Ventricle

4/5

These chambers are responsible to pump the blood. There is a presense of tricuspid valve on the right side and Bicuspid valve on the left side, These valves are responsible for black flow of the Blood.

Diagram :



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Date

Body of heart

Different veins arises from the different parts of the body, which collects / carries deoxygenated blood.

functioning of Heart

All the deoxygenated blood will be collected by veins from the entire body, and it will be kept in (Vena cava) then it will be sent to the right artium it will contract and move it to right ventricle.

Right ventricle will contract and push forwards to lungs through pulmenatory artiery. lungs contain oxygen so oxygenation take place. After ward the blood will be pushed forward to left artiery through pulmenatory artiery then it will be contracted and it will be pushed toward left ventricle through Biaupid valves and left ventricle will push it toward artic arch and it will be pushed toward lower body

For contraction and relaxation there is a need of electric blood which are generated by the nodes of the heart.

-> Heart beats 72 times per / minute
-> For 1 beat it takes 0.8 second.
-> About 5ml blood comes from contraction.
-> In Average 5 Liters of Blood presents in human body.

PTO

Date

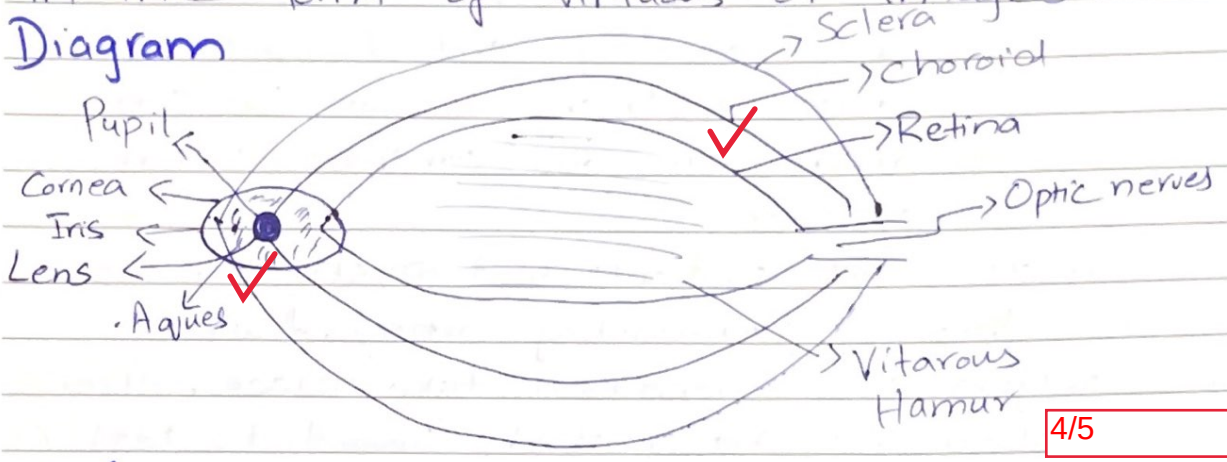
Question 1

Answer (b)

Human Eye

Human Eye is a sensory organ and it is responsible to provide sensory information in the form of virtuals or images.

Diagram



4/5

a) Cornea

it is an outermost transparent layer which interact with light waves. It is responsible for bending of light waves.

b) Pupil

It is a small hole from where Light enters into the eye.

c) Lens

Reception of light, lens is responsible for focusing of light

d) Iris

It is responsible for control of pupil's movement

e) Ratina

It is Inner most layer, most sensitive. at ratina conversion of light waves into an image takes

Date

place with help of cons and rods at photo receptor.

f) Optic Nerve

Optic Nerve transmit image toward brain, and it will help in recognition.

g) Sclera

It is outer most layer which protects the internal content of eyes

h) Chroid

It is the thick reddish part, it is envolved in nurishment of eyes.

I) Aqous.

It is fluid filled region faces frontol Site of light.

Human Eye is one of the most important organ of the human body for vision. Human Eye have various condition in which it do not performs properly:

1) Short Sightedness
2) far Sightedness
3) Night Blindness
4) Color Blindness

PTO

Date

Question no 1

Part (c)

Bio Fuels

Those fuels which are derived from biological material or Biological waste.

Some material that is used to produce biofuels are:

1) Plant Waste
2) Animal waste ; Dung
3) Crops remains ; Agricultural waste
4) Oil rich Sources / waste. ; mustard, oily seeds etc
5) Sugar cane
6) Sugar Beet

Types of Bio fuel

There are commonly three types of Biofuel ~~and~~ Discussed below:

1) Bio Diesel & its Production

Bio Diesel is Produced using oily raw material. For Producing bio diesel we need transesterification machine with multiple Chambers

→ **Mixing Chamber**: In which H_2SO_4 is added with raw material, it will mix and reaction will cause in reaction chamber and then oil and methane will be seprated and oil will be passed to seprator.

→ **Seprator & refining**

After ~~Refining~~ Sepration oil will be sent for refining and after refining. The Standard

Date 4/5

diesel is done.

Benefits & Uses

-> It is more clean and it emits lesser ammount of CO_2

-> It also emits lesser amount of SO_2

-> It can be used in :

1) Railway usage
2) Regular usage
3) Industrial usage
4) Generators.

2) Bio Gase & its Production

It is also a type of Biofuel. Biogas is produced through various types of organic waste like animal Dung. Bio gas is a mixture of methane, Carbondioxide, 70% & 30% respective ratios.

It is renewable and enviornment friendly fuel made from 100% local feedstocks.

Production Bio gas is done by crushing biowaste in smaller pieces and prepare it for adding liquid and afterward it needs warms condition So it is heated. The actual biogas production takes place through anerobic digestion in large tanks for about three weeks and finally the gas is ready to use.

Uses & Benefits.

-> It is used in road vehicle fuel. and industrial used.

Date

-> Bio ethanol

It is also a type of Biofuel. It is produced using various processes :

1) treatment to separate hemicellulose from cellulose

2) hydrolysis of cellulose to obtain fermentable sugar.

3) fermentation to convert sugar into ethanol.

Benefits

-) It is renewable, ~~ben~~ non-toxic

-) mitigate Global warming.

-> reduce air pollution.

-> reduce GHG.

Question no1

(Part d)

Plant cell

Plant cell have cell walls composed of cellulose, hemicellulose, and pectin and constructed outside the cell membrane.

Animal cell

Animal cell are eukaryotic cell with a membrane - bound nucleus.

Micro organism cell

It can be unicellular (Single cell), multicellular or acellular (lacking cell). They include bacteria, archeaea, fungi & protists.

Date

Differences

Plant Cell	Animal Cell	Microorganism Cell.
1) Eukaryotes	1) Eukaryotes	1) Prokaryotes
2) Cell membrane	2) Cell membrane	2) Cell membrane
3) Nuclear membrane	3) Nuclear membrane	3) No nuclear membrane
4) ~~No~~ cell wall made of cellulose	4) No cell wall	4) Cell wall made of Peptidoglycan.
5) Small	5) Smaller	5) Smallest

3/5

Question no 2

Part (a)

3/5

Sulfur Dioxide SO_2 and Nitrogen Oxide NO_x are increasing and these both are not good for enviornment.

SO_2 increasing effects

Sulfur dioxide can damage trees and plants, inhibit plant growth, and damages sensitive ecosystems and waterways. It also contribute to respiratory illness and aggravate existing heart and lung conditions.

Causes of SO_2

These gases are formed when fuel is burned at high temperatures.
These SO_2 can cause respiratory problems such as bronchitis and can irritate nose, throat and lungs.

NO_x increasing effects

NO_x nitrogen oxide is usally used to include two gases - nitric oxide and nitrogen dioxide.

Date

High level of NOx can cause Breathing problems, rapid burning, spasms and swelling of tissues in throat and upper respiratory tract and reduce oxygen of body.

Causes of NOx

This gas is also produced when fuel is burned at high temperatures. NOx pollution is emmited by Automibes, trucks and various non-road vehicle.

Both these gases are responsible in global warming and Acid rain. International efforts can reduce these threat of life from NOx and SO_2.

Question no 2

Part (c)

Remote Sensing.

2/5

Remote Sensing is a science together information related to any geographic area or location by using the sensor.

1) Source of energy; to make vision
2) Interaction of radiation with Atmosphere
3) Interaction of radiation with target interest.
4) Recording of reflected energy by the Sensors.
5) Transmission
6) Intrepretation & analysis
7) Application

Date

Roles and Benefits.

1) It help in enviornmental mantering
2) It helps in identifying source of pollution.