

Question # 2

- 2b

Enzyme:

Enzymes are made up of proteins, an organic component composed of polymers of amino acids. It is enzymes that speed up chemical processes in human body by working as an accelerating agent. Enzymes are essential for digestive system, ~~respiration~~ system, nerve system etc.

Characteristics of Enzymes

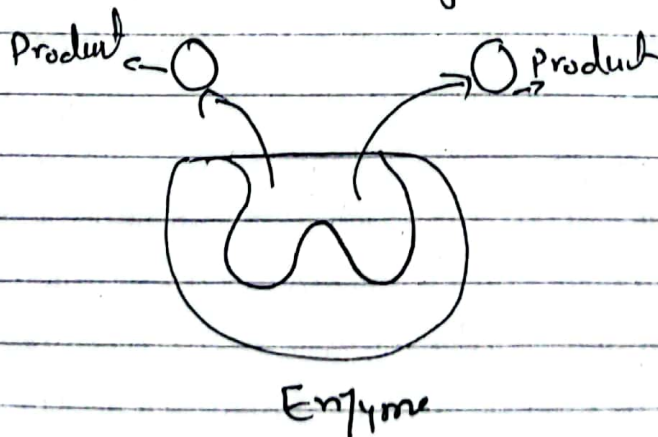
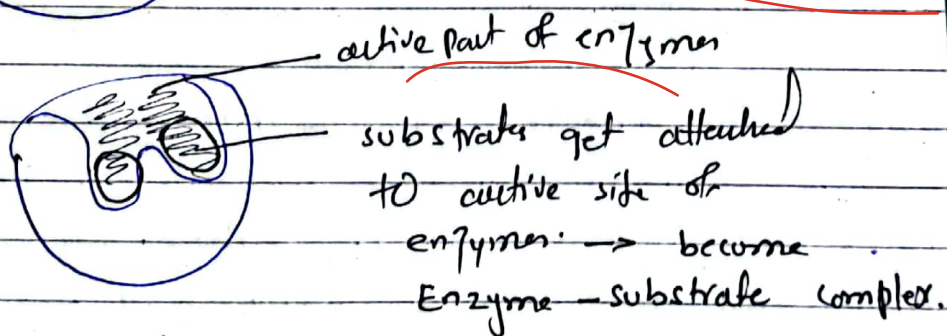
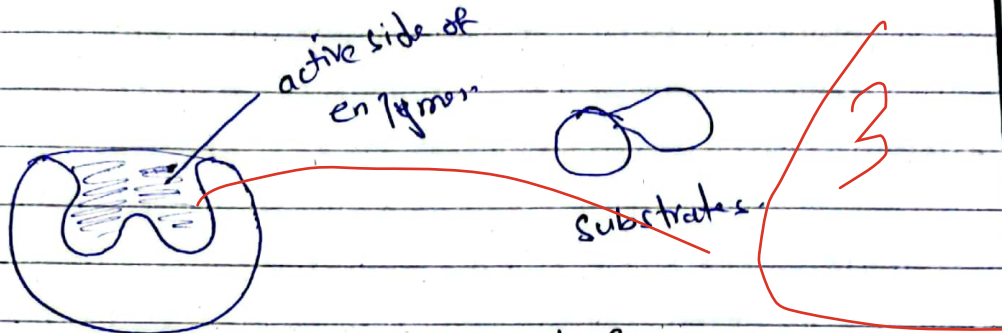
- An essential accelerating agent in human body.
- Works best under certain pH level as well in certain temperature level. For instance, enzymes work best at 37°C body temperature. While work slowly on low pH level. For instance it works at 7 pH level in intestine and at 2 pH level in stomach.

FunctionMechanism of Action

In human body enzymes have

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a particular active side to which substrate attach themselves and convert it to products which further do the same to another active side of another enzymes



- In stomach enzymes break down large substances into smaller molecules of glucose. so that the digestive system can absorb.

- In liver enzymes break down toxic harmful toxins.

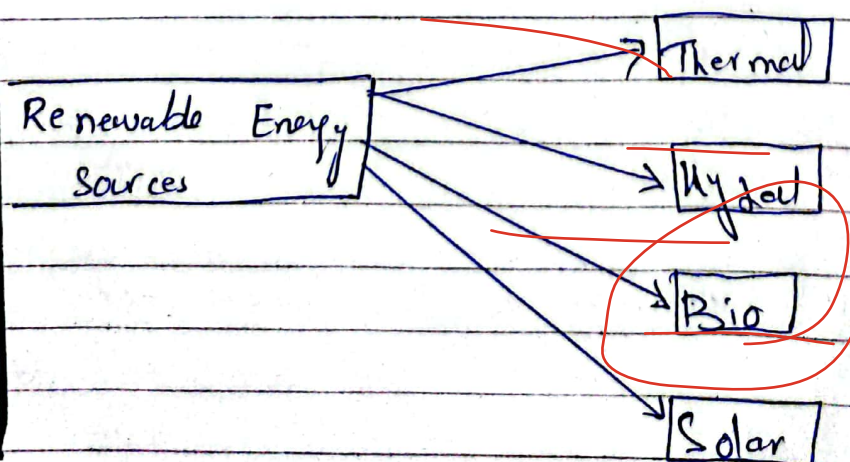
Conclusion:

Enzymes are essential compound of body which is needed to accelerate functions of different body organs without enzymes the same will be slower. ~~The~~ Hence, enzymes are an important for body.

Question (2c)

Renewable Energy and Environmental Cost

There has been ^{incurred} huge environmental costs due to use of non-renewable energy resources such as increasing carbon emissions, global warming, climate change, which ultimately results in environment hazards for instance: floods, unpredictable rain and weather patterns, droughts, melting of glaciers, etc. The same can be manage through transition in energy system by transferring from non-renewable to renewable sources of energy.



Reducing Environmental Cost Through Renewable Energy Resources

Renewable energy resources can reduce environmental cost through following changes:

- Improving Air Quality:

The transition from non-renewable energy resources to renewable resources will lead to improve air quality as there will be less input of harmful substances in air e.g. sulfur dioxide, nitrous oxides etc.

- Reduction in Carbon Emission and GHG:

Renewable energy resources will lead to less usage of fossil fuels and other materials which emit carbon dioxide and other green house gases which resultantly reduce ozone layer depletion and save environment from harmful ultra violet rays. Hence, it will reduce environmental costs.

- Less Mining and Drilling:

Transition to renewable resources will reduce mining and drilling activities, which will lead to reduce for instance: coal mining, for energy production during mining

Process the harmful ~~substance~~ of coal exports
in our ~~increase~~ it shakes earth balance
which ~~generates~~ natural hazards such as
land sliding, earthquakes, etc. and pollute
atmosphere. Renewable energy will reduce this
activity and ~~save~~ environment from such
incidents.

- Waste Reduction:

Renewable energy resources produce less
waste as compare to ~~waste~~ produce from
non-renewable energy plants. It requires less
land to dump these wastes. So, renewable
energy plants reduce waste as well as save
land from harmful waste management produced by
non-renewable energy plants.

- Conclusion:

Transition from non-renewable to
renewable energy resources will save environmental
cost by reducing hazardous ~~elements~~ of
non-renewable sources such

Question 2d

- Remote Sensing:

Remote sensing is a technology
which observe earth without being in

Direct contact or touch. Remote: In remote sensing system it receives different information from earth through different wave lengths. Later it converts information to which can be recorded through sensor from emitted energy from earth into image form of information. Then extract the required information related to problem at the end produce a required solution.

- Principles of Remote sensing:

Sensor → energy emitted → recorded by recorder → converted to image information → from which extract required information related to problem → solution produce.

- Environmental Application of Remote sensing:

There are multiple application of Remote sensing which are related to environmental elements.

- Water Quality and Availability:

with Remote sensing water quality and availability can be checked to measure and predict water usage and whether there will be water shortage or not and to determine if there is any water contamination or not.

Check Sea Level:

Remote sensing is used to measure sea level in order to predict any of flood chances.

Check Soil Quality

With Remote sensing soil quality can be checked to predict fertility level of soil which can be helpful in measuring total irrigation, erable land, and to predict crop production which will save from dry food related issues.

Demographic Information:

With Remote sensing, demographic information can be measured of any area in order predict and measure resource utilization and requirement of a particular area and to formulate needs of these areas.

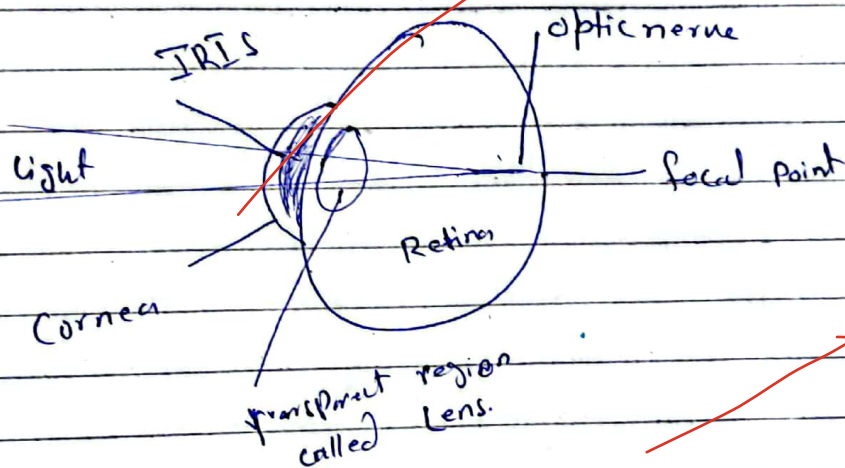
Conclusion:

Remote sensing is an important technical addition which has multiple environmental application. The same helps to measure and predict any environmental requirement and emergencies of near future.

Question # 3a

Working of Human Eye!

The human eye is responsible to convert light originated from an object to an image to brain cells through this process human eye sees objects this process (5) working steps which are as follows.



- Entering of Light.

A light emitted from object enters into eye from transparent layer on eye called cornea.

- The coloured Area of Eye:

From cornea this light enters into an area of eye which is Iris the one has colour.

- Transparent Lens

The light then enters into eyes through contact of Iris to transparent area called Lens which is behind Iris. It works with cornea - The lens bends and focuses light.

- Entering Light into Retina:

Then comes Retina which converts light into signals as Retina is a photoreceptor.

- Signals enters to Brain:

The signals converted by Retina's photoreceptor, then travel to brain and create an image which is processed to human brains.

Conclusion:

~~Through~~ The human eye human's process light into form of image. Through a 3 stages process.

Question # 3b:

Symptoms of Malaria and Dengue

Malaria and dengue has almost same symptoms but varies with intensity.

Malaria:

In malaria patient has high fever about 100 °F, watery loose motion - diarrhea, body pain, fatigue, joint pain, vomiting, nausea.

Dengue:

On the other hand in dengue patients have high fever about 104 °F, extreme body pain, joint pain which is severe and stays for a while, head ach - which feels like a piercing in head, extreme weakness which needs time to recover. even after cure of dengue moreover, there is a pressure and pain in eyes as well.

- Preventions of Malaria and Dengue:

There are many preventive measures which can be taken to safeguard against dengue and malaria. Such as

Eliminate standing water:

First of all clear standing water e.g. outside home which is a

major source of dengue and malaria mosquitoes.

- Proper Waste Management

Secondly there must be proper waste management ~~specifically in residential areas~~ so that ~~harmful breeding of~~ harmful insects and mosquitoes can be curtailed.

- Use of ~~Insect repellent~~ creams.

There are many creams and lotions available in market to apply on skin which repel mosquitoes and other harmful insects to bite.

- Use of Insect Prevention Nets

In market insect prevention nets are available which can be use to sleep inside of these nets. These nets prevent mosquitoes to enter inside and safeguard from their bite.

- Avoiding Peak Hours of mosquitoes.

2 People should avoid peak mosquito hours e.g. after sunset during mosquito seasons ~~to prevent mosquito to attack.~~

Conclusion:

~~Malaria and dengue~~ have almost same symptoms varies in severity and needs to take same preventive measure.

as both are caused because of mosquito bite. So, there is a need to take preventive measures to safeguard from these dangerous diseases.

Question # 3C

Eutrophication:

Eutrophication is a phenomenon which describes ~~presence of excess nutrients~~ in water which ~~lead~~ to abundant production of small unwanted plants in water eg algae.

- Causes of Eutrophication:

Fertilizers and Rain:

There is an increasing tendency of using chemical added fertilizer to increase crop production which leads to other issues as well such as when rain-falls happens specially in during heavy rain-falls these fertilizers which are added into crops runs out mixed with rain water and ultimately adds to canal, river, sea water which leads to production of algae in these water reservoirs.

Industrial and Domestic waste

waste produced whether from

industries or domestic. do not treat properly which leads to dump these chemicals filled waste to sea water. These chemicals filled with nitrogen produce ^{due to} nutrients plants in water surface.

Effects of Eutrophication:

Environmental Effects

Eutrophication leads to harmful impacts on environment such as ~~algae~~ on sea surface will not let sun light to enter into sea ~~to~~ which ~~damages~~ marine lives. as oxygen depletion which creates dead zones in equatorial life.

Human health issues:

Eutrophication leads to harmful impacts on human health as it produces toxins in water e.g. when this algae chemical filled nutrients enters into ground water, as well as rivers, water of which is used for consumption - leads to diseases in human health.

Economic Impacts:

There are a few economic impacts of eutrophication e.g. fisheries will suffer from it as due to less oxygen and less sunlight entering into sea, ~~marine life will get disturbed~~, low breed of fishes will decrease, which will ~~damage fishery industry~~, moreover algae filled areas become less attractive for tourism. Furthermore governments will need to treat toxin rich contaminated water to clean for consumption which increase government expenditure.

Conclusion:

Eutrophication has many causes as well as many harmful effects on environment, human health, economy of state, etc. which need to be treated with timely measures.

Question # 3d:

GPS

- GPS - Global Positioning System is used to locate locations.
- Every GPS has its own clock, computer and radio.
- It is used to provide exact location of anything as it receives information from satellites orbiting around the earth.
- It is applied for navigation information.
- Accuracy depends on distance - it works best under 10km distances.

GIS

- GIS - Geographic Information System - is used to get all information about geography.
- GIS - It stores, analyses, display information.
- It is a data based functional technical instrument which provides solutions of problems through treatments of data.
- ~~It is designed for decision making assistance~~
- Accuracy of GIS data depends on data received and captured from spatial data and software it uses.

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