

Part 2

Explain Lunar Eclipse with  
diagram?

Ans

1- Definition of Lunar  
Eclipse

When the Earth comes  
between the sun and moon  
the rays of sun do not fall  
on moon. The Earth covers  
the moon partially or completely  
its an Lunar Eclipse.

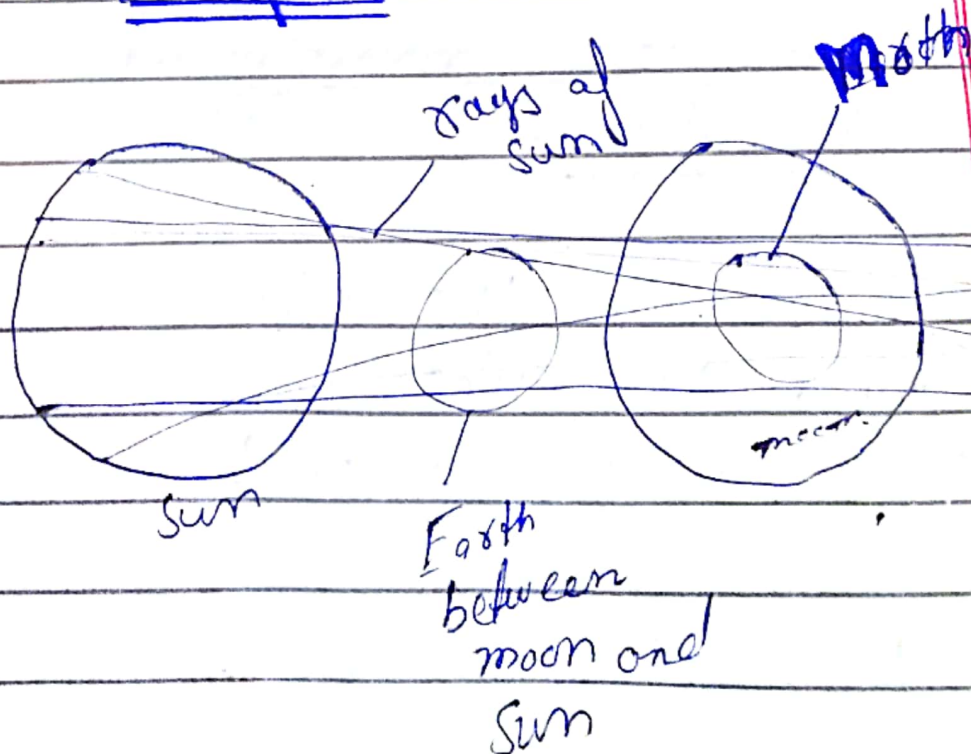
2- What is meaning of  
Eclipse?

When the celestial object  
covers the other astronomical  
object with celestial body. its  
called Eclipse.

3- Anatomy of Eclipse.

Moon is a rock piece about 2160 mile in diameter. it does not have its own light. moon shine when the sun reflects its light on it. moon move around the earth and complete its circle about 29 and half. At the same time, Earth orbit around the sun when the earth come between the sun and moon. the rays of sun never fall on moon it cause eclipse.

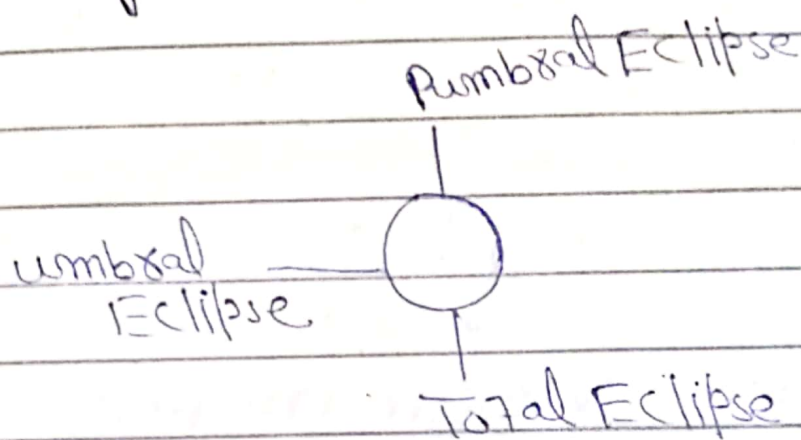
#### 4- Diagram of June 8 Eclipse



the rays of sun never fall  
on moon.

## 5-Types of Lunar Eclipse

There are three types  
of Lunar Eclipse.



### 3.1. Penumbral Eclipse

When a portion of  
moon pass through penumbral  
eclipse part. it is rare and  
theoretically eclipse never seen  
through naked eye.

### 5.2 - UmbraL / Partial eclipse

When the umbra part of moon passes through earth. it covers its half part. it is called partial or umbra eclipse. it is visible through unaided eye.

### 5.3. Total Eclipse

When the whole moon beneath the earth. it covers the full part of sun. No rays fall on moon. it is vibrant red in color. it is also called totality.

### 5.4 Maximum Eclipse

When the maximum part move and some part eclipsed.

## Question 2

Explain Function of Enzymes in detail?

Ans

# 1- Enzymes

## 1.1 Definition of Enzymes

Enzymes are protein in nature. They are specific to increase the metabolic rate of reaction without changing the nature of end product.

## 2- Overview of Enzyme

Enzymes are required for specific substance to increase the rate of reaction. It is a co-factor. It is attached with substance and never change the end product. It detachable part are called apo-enzyme and non-detachable are called holo-enzyme.

## 3- Equation of Enzyme from the product

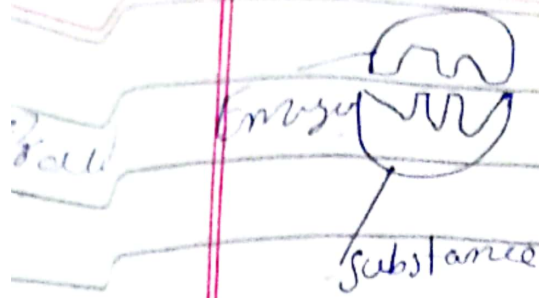
Enzyme + Co-factor  $\rightarrow$  Specific  $\rightarrow$  Product  
substance

## 4- Characteristics of Enzymes

- (1) Enzymes are protein in nature. Some are non-protein
- (2) They are attached with Co-factor and increase the rate of reaction without changing end point
- (3) its attachable part co-factor non-attachable are apoenzyme and loses attachable are holoenzyme
- (4) The substance attached Co-factor and form end product.

## (3) Lock and Key model

John lock give the lock and key model in 1859. According to this model substrate fit co-factor and form a lock and key end product



The enzyme attached with substance  
with substance and form  
a specific product without  
make any charging or  
end product.

## Function of Enzymes.

(1) in cooking Tenderizing  
the meat.

(2) Environment.

it is used for the  
detoxification of environment  
recycle the waste product

(3) industries

use to increase the  
rate of reaction.

Q2  
How Earthquake and  
Volcanoes interconnect?  
if you know

Ans.

### 1- Definition of Earthquake

The Earthquake occur  
suddenly shaking and rolling  
of earth tectonic plate. The  
energy release that cause  
shaking of earth.

### 2- Volcanoes

Volcanoes are occur when  
the tectonic plates move  
and its springle the magma  
outside the earth.

(3) How volcanoes and  
Earthquake interrelated?



it does not completely stop the expansion. No one know how. so they give them name dark energy.

## Difference b/w Dark energy and matter.

### Dark energy

Dark energy No one know. it is a mystery but important. it is about 85% of earth remaining 30% Dark matter and 5% object are normal matter. The dark energy reduce the rate of universe expansion.

### Dark matter.

Dark matter covers 30% of the earth. it is not a atom normal matter like but gas.

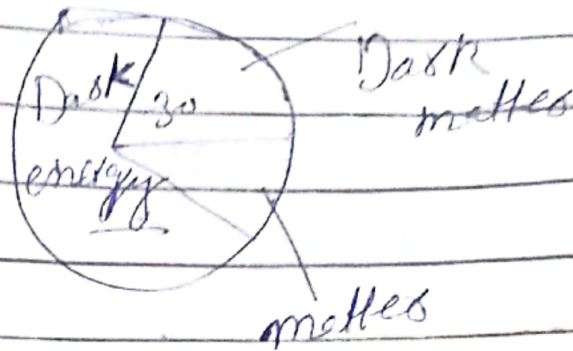
The earthquake and volcanoes both are interconnected because they both are occur the movement of tectonic plates.

Difference b/w Dark energy and matter?

1- What is the meaning of term Dark energy?

There is the thought that something present in world which decrease the expansion of world. it is considered the force of gravity reduce the expansion but after the invention of Hubble telescope it is thoughts that acceleration is reduce expansion it is energy but a weak force because

Know that dark matter are not baryon because baryon release energy when it passes through reaction release gamma rays.



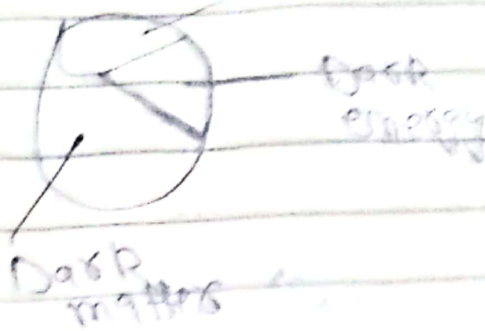
## Anti-matter

Anti-matter produce gamma rays when atom bombard on it so they are not a matter

## Dark energy

its not a matter anti-matter. as it is not visible for human its just a imagination that something present in the universe that control

its expansion  
matrix



outer  
membrane

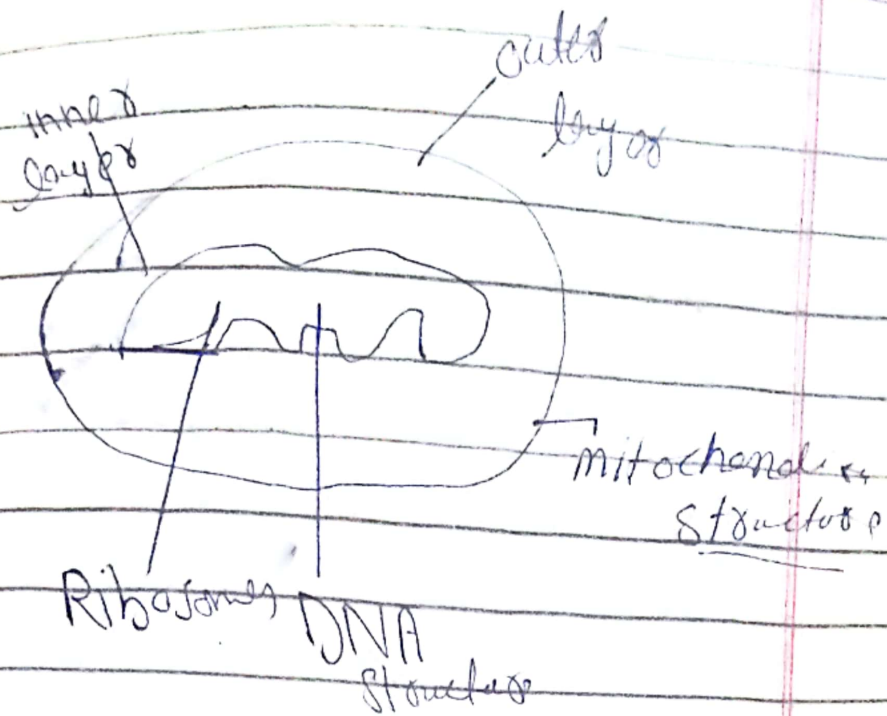
inner  
membrane

$C_{60}$

what is mitochondria  
its function? How it is  
Power house?

## Mitochondria.

it is the structural  
and functional unit of  
eukaryotic. its a finger-like  
projection called cristae. it  
is present in plants, eukaryotic  
and fungi cell. it is the  
power house of cell. it  
is the self-replication  
structure of the cell. it  
contains its own  
DNA



## Functions of mitochondria

Mitochondria is perform different function.

(1) Aerobic respiration is the main function of mitochondria.

(2) Storage of energy. it store energy in the form of ATP.

(3) its a power house of cell.

(4) Self Replication.

(3) How it is the power house of cell.

It stores energy in the form of ATP. When the energy is needed the ATP breaks down into Adenosine-Tri-Phosphate and energy is released which is transferred into different organs during aerobic respiration.