

Dos and Don'ts for General Science & Ability Paper

Hi there, you've done well. Know that acquiring knowledge is one thing and reproducing it in paper according to what's asked is another. There are a few things I would like to highlight.

1. A 5 marks part requires at least 2 and at max 3 sides of a paper. Know that there can be two or three parts of a question and their marks are divided accordingly. So, address all of them in a just manner.

2. Focus on time management. You get 35 minutes to solve one question and about 8 minutes per 5 mark part. Manage your time accordingly.

3. You need to understand that your paper is supposed to look more scientific than theoretical. So, add flowcharts and diagrams where required.

4. Your handwriting and neatness can be really impactful. Avoid cutting and overwriting.

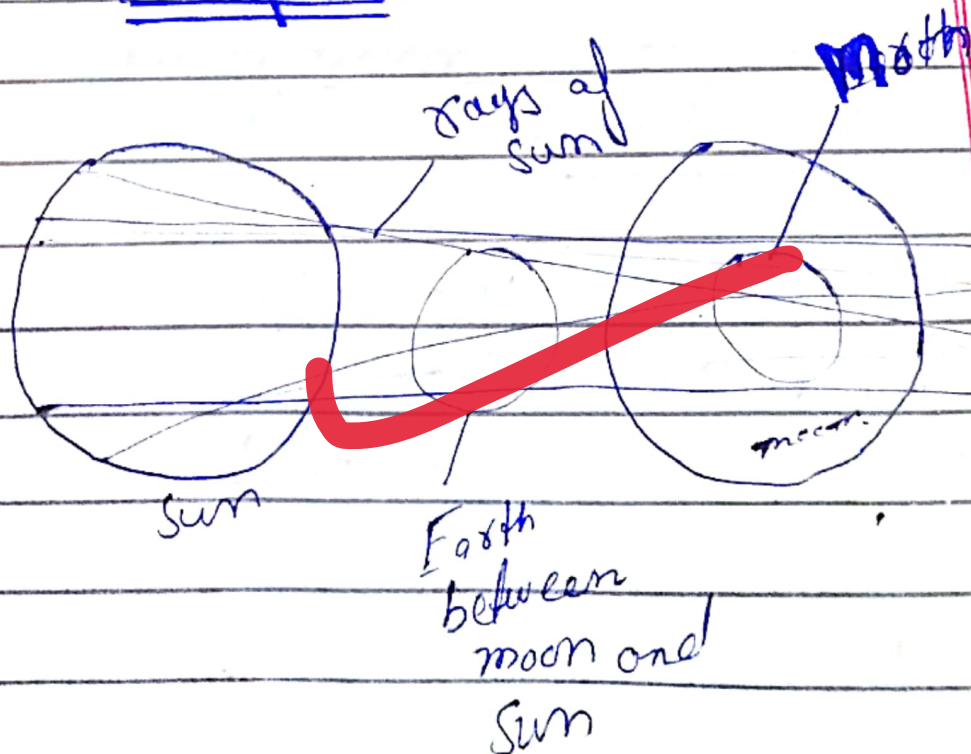
5. Focus on your spellings and your grammar. Here, in GSA there's no deduction in marks but your expression will definitely create an impact.

6. In ability portion, give explanation for analytical ability question in words. You need to understand that a 5 mark part requires all steps written and explained.

Good luck for CSS 2025. You're gonna rock in sha Allah. :)

Moon is a rock place 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.

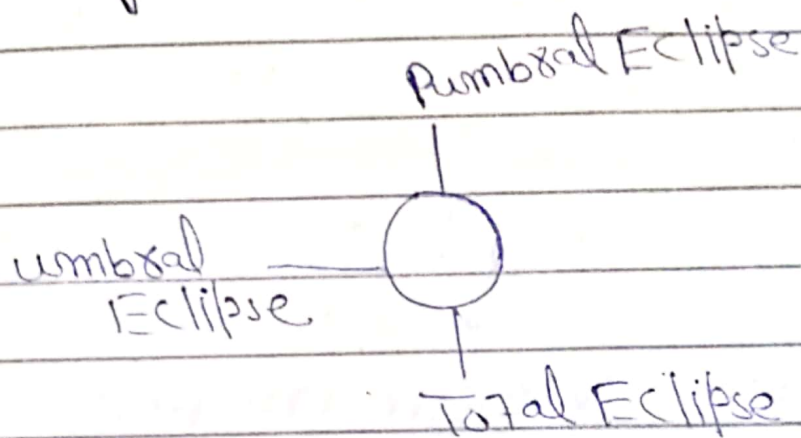
4- Diagram of Lunar Eclipse



the rays of sun never fall on moon.

5-Types of Lunar Eclipse

There are three types of Lunar Eclipse.



3.1. Pumbraal Eclipse

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

5.2 - umbraal / Partial eclipse

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

5.3. Total Eclipse

When the whole moon is 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 moves 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. These enzymes are specific to increase the metabolic rate of reaction without changing the nature of end product.

2- Overview of Enzyme

Enzyme are referred 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. Its detachable part are called apo-enzyme and non-detachable are called holo-enzyme.

3- Equation of Enzyme from the product

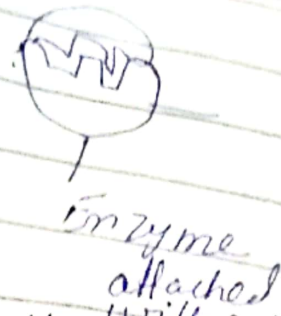
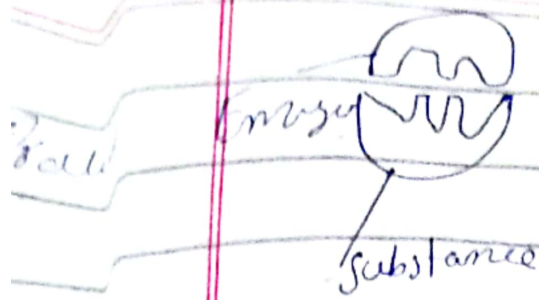
Enzyme + Co-factor $\rightarrow$ Specific $\rightarrow$ Product
substance

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 and form a specific product without make any charging or end product.

Function of Enzymes.

(1) in cooking ~~2~~ 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 yes, how?

Ans.

1- Definition of Earthquake

The Earthquake occurs 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 knows how. so they give them name dark energy.

Difference b/w Dark energy and matter.

Dark energy

Dark energy No one knows 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.

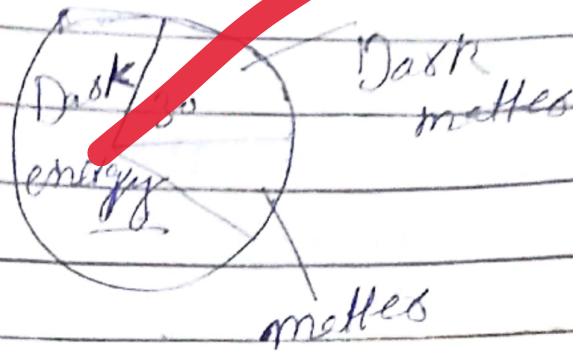
The earthquake and volcanoes both are interconnected because they both are occur the movement of tectonic plates.

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 thought 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.



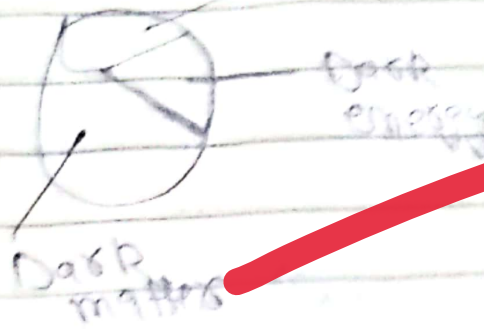
Anti-matter

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

Dark energy

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

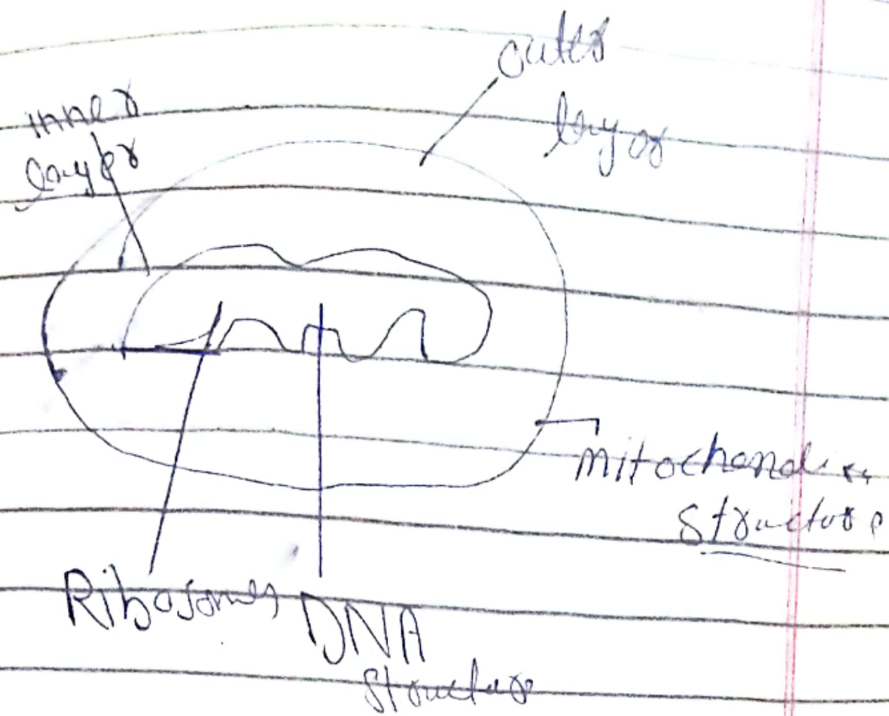
its expansion
matrix



Q2
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 contain 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) it's a power house of cell.
- (4) Self Replication.

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

it is store energy in the form of ATP. when the energy is need the ATP break down in to Adeno-Tri-Phosphate. and energy is released which is transferred into different organs during aerobic respiration