

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. :)

Incubation period of 4-10 days

Severe Dengue:

- ↳ Lack of Plasma
- ↳ Fluid Accumulation
- ↳ Severe bleeding
- ↳ Respiratory distress

=> warning signs begin to appear after 3-7 day of first symptoms. It include symptoms of abdominal pain, persist vomiting with blood, bleeding gums, rapid breathing

Transmission:

The Primary vector is Aedes aegypti mosquito. After an incubation period of 4-10 days; an infected mosquito is capable of transmitting the virus for the rest of its life. Patient with infected dengue virus can transmit the infection (for 4-5 days; maximum 12). Aedes mosquitoes when the first symptoms has appeared.

5. Dark matter:

Dark matter is a mystery, because much is not known than known about it. First, dark matter is dark, it is not in the form of stars and planets that we see. observation shows that dark matter constitutes 27% of ~~all matter~~ the universe, while 5% visible matter.

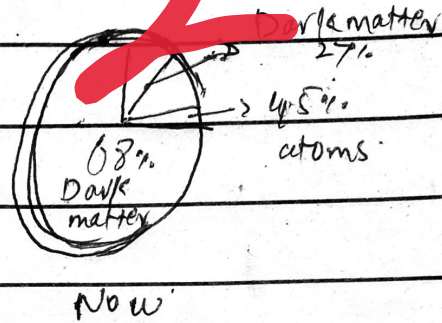
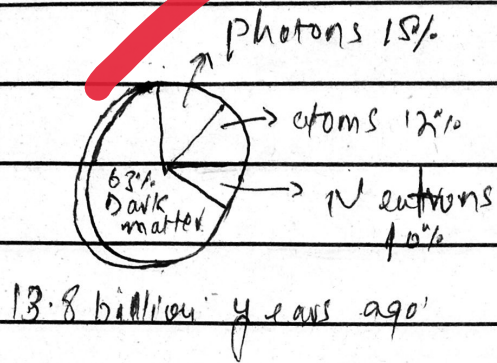
What we know about dark matter:

- (i) They are not in form of dark clouds of normal matter, matter made up of particles called baryons. It is because we would be able to detect baryonic clouds by their absorption of radiation passing through them.
- (ii) Dark matter is not antimatter, because we do not see the ~~high~~ gamma rays production.
- (iii) High concentration of ~~light~~ matter bend light passing near them. But we do not see such phenomena to claim of the presence of dark matter.

Dark Energy:

A theoretical form of energy postulated to act in opposition to gravity and to occupy the entire universe, accounting for most of the energy in it and causing its expansion to accelerate.

More is unknown than is known. However, it
accept the expansion of universe is a
mystery. It turns out that 68% of the
universe is dark energy. Scientists suggest
that universe is expanding due to dark energy.



C. Mitochondria

Mitochondria is very important organelle. They are present in eukaryotic cell only. They are involved in manufacturing and supply of energy to cell. That's why it is called power house of cell. The size and number of mitochondria is different in different cells.

Structure.

Mitochondria may be in the form of rod or filament. Mitochondria is double membrane bounded. Outer membrane is smooth while inner membrane have many folds called cristae.

The inner surface of cristae ~~contains~~ contains small knob like structure, called F1 particles.

The F1 particles are suspended inside the matrix.

Composition.

The mitochondrial membrane have similar composition to cell membrane. It is composed of lipids and proteins. The mitochondrial matrix contains a large numbers of enzyme, coenzyme, organic and inorganic salts. Mitochondria also contains ~~some~~ DNA and ribosome. So, some proteins are synthesized here.

Formation:

Mitochondria is a self replicating organelle. New mitochondria are formed by the division of the old mitochondria.

Function:

→ Many important metabolic processes occur here, that includes cycle, aerobic respiration, and fatty acid metabolism. Energy is released from organic food during these metabolic processes. This energy is provided stored in the form of ATP. ATP provides energy to cell on demands.

d. Covalent Bond.

A bond which is formed by mutual sharing of electron. There are 3 types of covalent bonds; a single covalent bond, double covalent, and triple covalent. Some covalent bonds are polar and other coordinate.

Types:

(i) A Single covalent Bond: A bond formed by mutual sharing of one electron. It is denoted by a single dash. (—)

Explanation: Those elements of periodic table which have an unpaired electron in its outermost orbitals share their electron with other elements. In this way they pair up their spins.

(ii) Double covalent bond: Bond formed by mutual sharing of two electron pairs. It is represented by two small dash. (=)

Example CO_2 , Ethene etc.

(iii) Triple covalent bond: Bond formed by mutual sharing of three electron pairs. Example: Ethyne, N_2 etc.

Covalent bond can be divided into two types on the basis of polarity.

- (1) polar covalent bond (ii) non polar

Q3 (a) Lunar eclipse:

"An astronomical event that occurs when the moon moves into the Earth's shadow, causing the moon to be darkened."

The moon moves in an orbit around the Earth, and at the same time, Earth orbits the sun. Sometimes ^{Earth} moves between the sun and the moon. When this happens, Earth blocks the sun light that normally is reflected by the moon. Earth's shadow falls on it. This is an eclipse of the moon - a lunar eclipse. A lunar eclipse can occur only when the moon is full. A lunar can be seen from the Earth at night.

3 Types of lunar eclipse.

(i) Penumbra lunar eclipse.

When the moon passes through the penumbra of the Earth's shadow, the moon's color slightly changes as there is so, it is barely visible from earth.

(vi) Partial / Partial lunar eclipse.

When the part of the Moon passes through the umbra of Earth's shadow then it turned as partial lunar eclipse as its whole area is not obscured by the shadow.

(vii)

Total Lunar eclipse

When the entire Moon passes through the umbral region of the Earth's shadow and the Moon is totally obscured.