

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. :)

Symptom

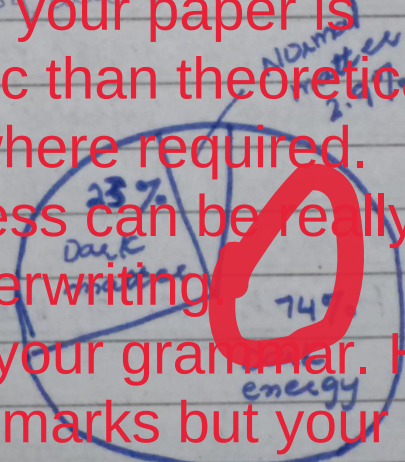
Convulsion

Dark matter

Partially composed of objects that are difficult to detect such as black holes, intergalactic dust, and undiscovered objects

Dark Energy

discovered in 2nd half of 1990s by astronomers determine that the expansion of universe accelerating



It produce a pressure like antigravity to cause this acceleration. Physicists believe that it is the single largest component of the world. It possess the negative pressure which means the more space it occupies, the less energy it has. Therefore, it expands space in order to reduce its energy.

(C)

Mitochondria

It is a Double membrane structure with outer smooth membrane and inner membrane with invaginations called "Cristae". Inside the inner membrane the jelly like juice material called Matrix.

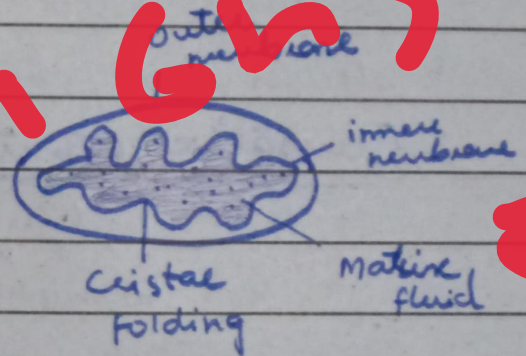


Fig: Mitochondria

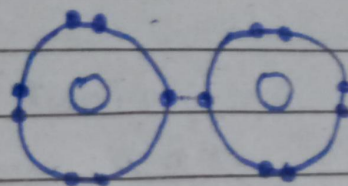
Powerhouse of the cell

It is the powerhouse of the cell and involved in energy production. Mitochondria converts energy from food into adenosine triphosphate (ATP), a molecule that store energy and fuel other cellular processes.

(d)

Covalent bonds

It is a bond that involves the sharing of electrons to form electron pairs between atoms and these electrons are known as shared pairs. When they share electrons, this process is called covalent bond.

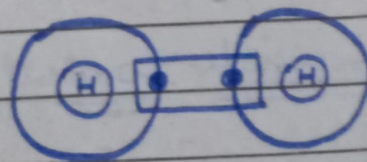


Sharing of Available valence electrons

Fig: Covalent bond

Types of covalent bond1. Single Bond

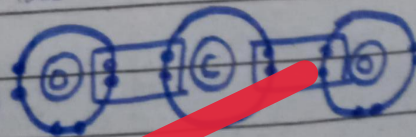
When one or two pair of electrons are shared between the atoms.



H₂ (Hydrogen)

2. Double Bond

When two or four pairs of electrons are shared between the atoms.

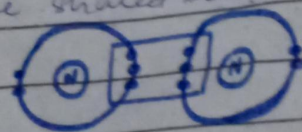


CO₂

(Carbon dioxide)

3. Triple Bond

When three or six pairs of electrons are shared between the atoms.

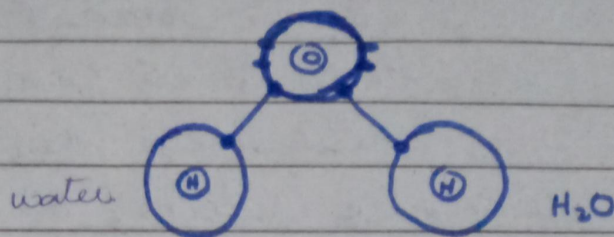


N₂

Nitrogen.

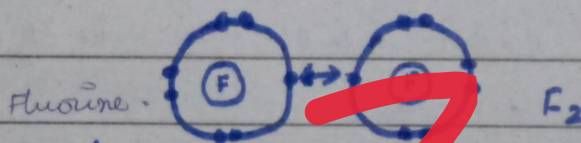
1. Polar Covalent Bond

It is based on the polarity and coordination of the atoms. When the atoms sharing the electrons have a significant difference in their electronegativities that is 0.1 to 2. One atom is slightly negative and the other atom becomes slightly positive.



2. Nonpolar Bond

When the electronegativity difference between the atoms is zero. The electrons are equally shared between the atoms then it is known as covalent bond nonpolar.



3. Coordinate Covalent Bond

The shared pair of electrons comes from one of the atoms. This type of bond is typically observed in the bonding of metal ions to ligands.

