

Dos and Don'ts for the General Science & Ability Paper

DATE: Dec 9, 2025

Hi there — you've prepared well!

Remember, knowing the content is one thing, but presenting it in the paper exactly as required is another. Here are a few key points to keep in mind:

1. For a 5-mark part, aim to write at least 2 and at most 3 sides of the answer sheet.

2. Often, a question has two or three parts, and the marks are divided accordingly — so address each part fairly.

3. Manage your time wisely — you have about 35 minutes per full question, which comes down to around 8 minutes for each 5-mark part. Stick to this to avoid rushing later.

4. Make your answers look scientific, not just theoretical. Use flowcharts and diagrams wherever they add clarity.

5. Neatness matters — keep your handwriting clean, avoid cutting or overwriting.

6. Mind your spelling and grammar — while GSA doesn't deduct marks for these, your expression leaves an impression.

7. In the ability portion, explain analytical ability questions in words. For a 5-mark part, show all steps and provide clear explanations.

Good luck for CSS 2026 — you're going to ace it, in sha Allah! 🌟

cloud to collapse and clump together.

2- Protostar:- As the gas collapses, it heats up and forms a protostar.

3- Main Sequence Star:- When the core becomes hot and dense enough, hydrogen fusion starts. This is the longest and most stable period for a star. They burn more fuel and emit more light.

4- Red Supergiant:- After hydrogen runs out, the core contracts and outer layers expand, making the star a red supergiant. The fusion then creates heavier elements.

5- Supernova:- When the iron core becomes too massive to support itself, it collapses. This sudden collapse triggers a supernova, a powerful explosion.

6- Black hole:- The remain of supernova is either a neutron star or a black hole. For formation of black hole, the gravity crushes the core to a point of infinite density. This is what we call a black hole.

X ————— X

6- A semiconductor is a material whose electrical conductivity lies between that of a conductor and an insulator. It means that they neither conduct nor repel the electric current in proper manner. This material is used in electronic circuits, transistors, diodes and light emitting devices. Semiconductors are divided into two categories n-type and p-type.

	n-type	p-type
Doping element	Pentavalent (5 valence electrons).	Trivalent (3 valence electrons).
Majority Charge carriers	Electrons	Absence of electrons (Holes)
Minority Charge carriers	Holes	Electron
Polarity	Negative type	Positive type.
Type	Donor type	Acceptor type

x

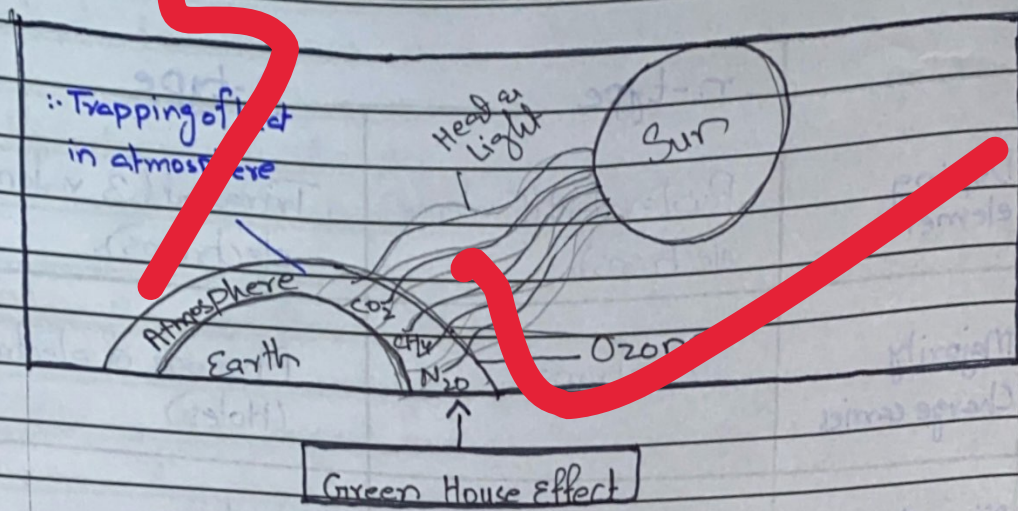
x

C- According to Intergovernmental Panel on Climate Change (IPCC) "global warming can be defined as gradual increase of temperature on Earth's surface." In simple terms, it means rising temperatures gradually over the period of time.

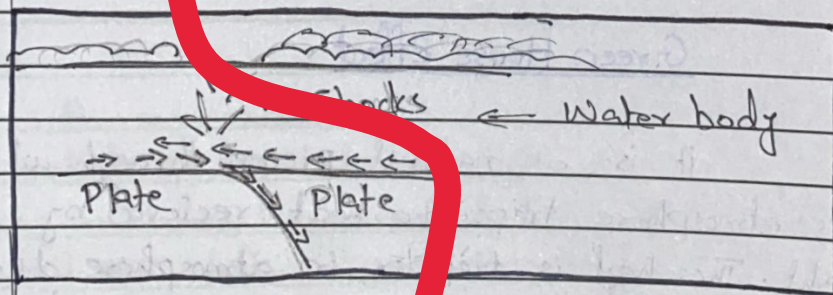
Green House Effect

It is a natural process through which Earth's atmosphere traps the heat received by sunlight. The heat is trapped in atmosphere due to presence of green house gases. The major green house gases present in Earth's atmosphere are :

- Nitrous oxide $\rightarrow 6.1\%$
- Carbon dioxide $\rightarrow 79.7\%$
- Methane $\rightarrow 11.1\%$



d- A tsunami is a phenomenon in which ocean forms large waves that disperse in all directions from its emerging point. Tsunami is mainly caused by the earth's natural movement of tectonic plates or sudden release of earth's core energy through a volcano. The common natural process that triggers tsunami is movement of earth's tectonic plates. It occurs when a layer of earth's plate merges under a denser one creating effect called subduction. This causes shockwaves which alter the normal movement of water of ocean to move rapidly in high altitude.



Impact of Tsunami on Coastal Areas

Tsunami poses a direct threat to coastal areas. It is estimated by many think tanks-

that around 2.5bn people around the globe live in coastal areas. The sudden tsunami not only poses a threat to life but also damages infrastructure, machinery and cutoff trade as coastal areas are most developed, inhabited and have maximum outcome for trade via sea route.

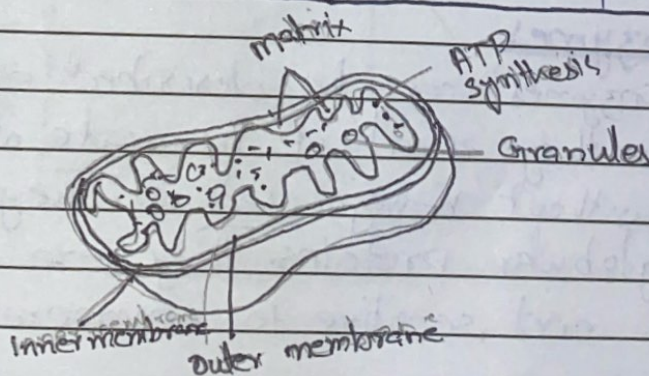
X ————— X

Q3:-

a - Structure and Function of Mitochondria and Ribosomes in Animal Cell

Mitochondria

It is a double-membrane organelle within the cell. It has an outer smooth membrane that forms protective layer and controls what enters and exits. After that it has an inner membrane folded into structures called cristae. Inside mitochondria is fluid filled space containing enzymes called Matrix. The main function of this organelle is production of ATP (adenosine triphosphate), the main energy currency of cell. Moreover, this performs cellular respiration and is involved in heat production.

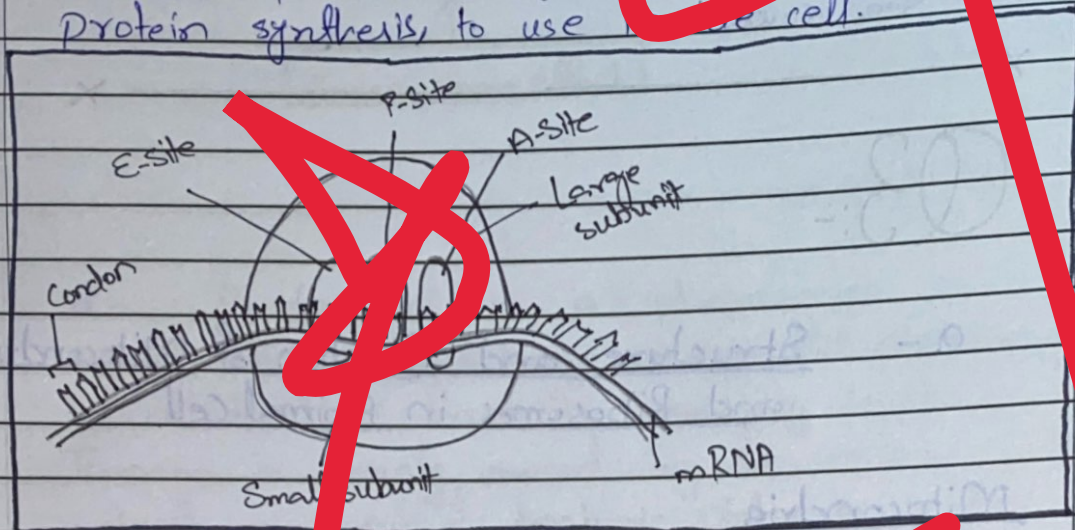


Mitochondria

Ribosomes

These are small, non-membrane structures made of rRNA (ribosomal RNA) and proteins. They have two subunits: a large subunit and a small subunit.

Functions performed by these organelles are protein synthesis, to use in the cell.



Why mitochondria is "power house of cell"

This nickname is given to mitochondria because they produce most of cell's ATP, which is required for muscle contraction, nerve impulses, active transport, and building molecules. Without mitochondria, animal cell would not generate energy to survive.

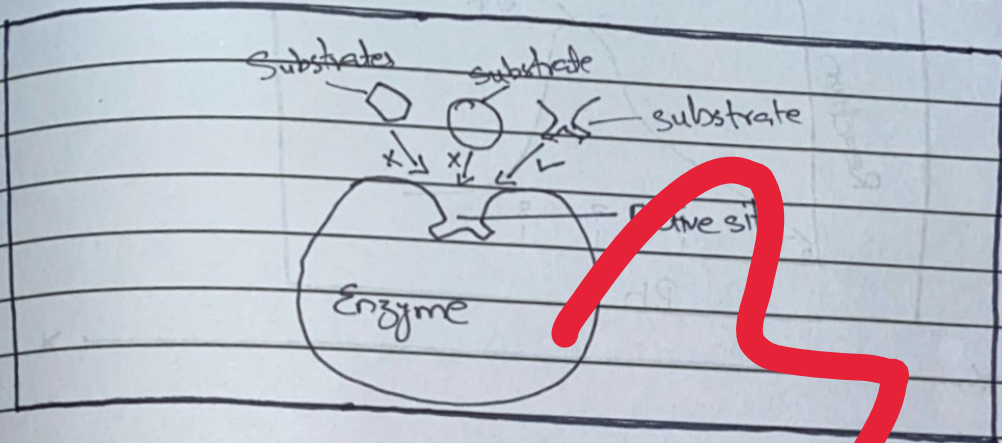
X ————— X

6- Enzymes

Enzymes can be described as biological catalysts as they speed up the rate of reaction in body without being used up. They are originally globular proteins. They are reusable, highly specific and sensitive to environment and pH.

Lock and Key model

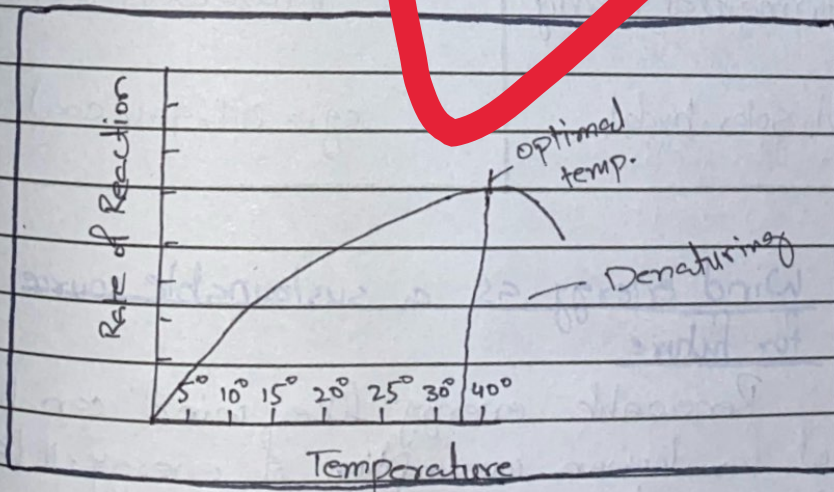
This model of enzyme was proposed by Emil Fischer in 1894. It proposes that enzyme is a lock and substrate is the key. The substrate fits perfectly into enzyme's active site, just like a key fits into specific lock.



Factors affecting enzyme activity

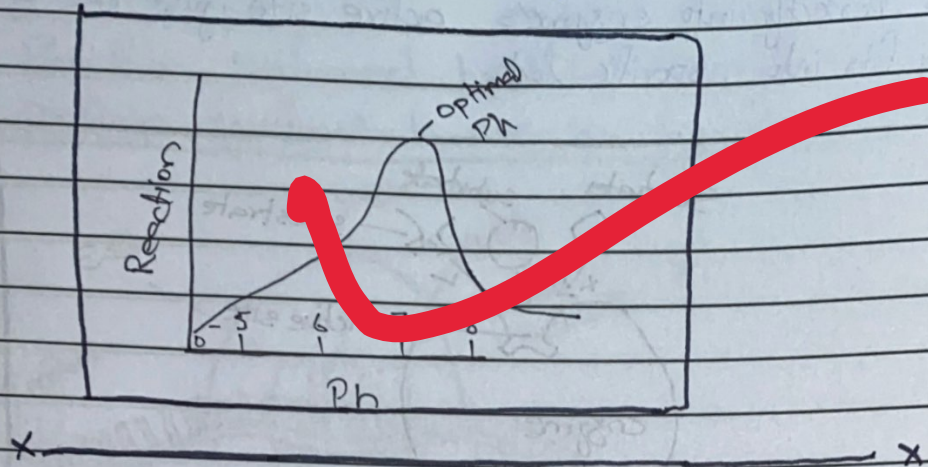
Temperature

Temperature affects the activity of enzyme. If the temperature is zero, the rate of reaction will be zero. The optimal temperature for smooth functioning of enzyme is 37°C .



Ph

Another factor affecting enzyme is ph. If the Ph is zero, the rate of reaction will be zero. The optimal Ph for enzyme is 7.

C-

<u>Renewables</u>	<u>Non-Renewables</u>
- Found in abundance - Reusable - Cheap or free to use - Environmentally friendly	- Scarce - Non-reusable - Costly to use - Hazardous to environment
eg → Wind, Solar, hydro,	eg → Oil, gas, coal

Wind energy as a sustainable source for future

Renewable energy like wind can be beneficial for human consumption of energy. It has ability to generate high power electricity using large turbines. The world, specially developed nations has already shifted to wind energy as it is

sustainable and environmental friendly. However, installation costs a lot and the massive size of turbines might be a problem for local communities to merge. Keeping in view its benefits and its presence of environment, it will prove to be better for improving environment and dealing with climate changes.

Section II

Q6:-

a-

Solution:-

$$A = \frac{1}{10}, B = \frac{1}{15}, C = -\frac{1}{30}$$

$$\text{Net rate} = \frac{1}{10} + \frac{1}{15} - \frac{1}{30} \xrightarrow{\text{LCM}} \frac{3+2-1}{30} = \frac{4}{30} = \frac{2}{15}$$

$$\text{Time} = \frac{1}{\text{Net rate}} = \frac{1}{\frac{2}{15}} = \frac{15}{2} = 7.5$$

x _____ x

b-

Let salaries be: $X = 4K, Y = 5K, Z = 7K$

• Y's increase by 10% $\rightarrow Y_{\text{new}} = 5K \times 1.1 = 5.5K$

• Z's salary decreases by 25% $\rightarrow Z_{\text{new}} = 7K \times 0.75 = 5.25K$

• X's same = 4K

$$X + Y + Z = 4K + 5.5K + 5.25K = 14.75K$$

Total = Rs 1,69,500, so:

$$14.75K = 1,69,500$$

$$K = 1,69,500 / 14.75 = 11,500; X = 4K \Rightarrow 4 \times 11,500 = \boxed{46,000}$$

x _____ x

d-

Let students be n Avg score = 78 $\rightarrow$ total sum = $78n$ Top 5 = 95, 92, 90, 85 $\rightarrow$ sum = 460.

After removing top 5:

• Remaining students = $n-5$ • Avg = 75 $\rightarrow$ 75($n-5$) sum of rem.

Total sum = sum of top 5 + sum of rem.

$$78n = 460 + 75(n-5)$$

$$78n = 460 + 75n - 375$$

$$78n = 75n + 85$$

$$3n = 85 \Rightarrow n = 28.33$$

Q8:-

q- Road = UODG

LAKE = OCNH

The series is in sequence that three letters are added to first, third and fourth one and two to second one

$$R+3=U \rightarrow L+3=O$$

$$O+2=Q \rightarrow A+2=C$$

$$A+3=D \rightarrow K+3=N$$

$$D+3=G \rightarrow C+3=H$$

b-

- my sister's husband $\rightarrow$ This is man's brother in law
- The son of my sister's husband $\rightarrow$ son of man's brother in law

Man = M
Woman = W

If W's son = S. Then

Father of S = son of M's sister's husband

so W's husband = son of M's sister's husband

M's sister husband = M's brother in law.

$\rightarrow$ The woman is man's niece in law.

←—————→

c-

1- 4, 12, 6, 18, 9, 27, _____

$$4 \times 3 = 12, 12 \div 2 = 6, 6 \times 3 = 18, 18 \div 2 = 9, 9 \times 3 = 27$$

so the next will be:

$$27 \div 2 = \boxed{13.5}$$

11- 1, 2, 6, 24, 120, _____

$$1 = 1 \times 1 = 1$$

$$2 = 1 \times 2 = 2$$

$$6 = 1 \times 2 \times 3 = 6$$

$$24 = 1 \times 2 \times 3 \times 4 = 24$$

$$120 = 1 \times 2 \times 3 \times 4 \times 5 = 120$$

Therefore next will be $\rightarrow 1 \times 2 \times 3 \times 4 \times 5 \times 6 = \boxed{720}$

←—————→

THE END