Dos and Don'ts for the General Science & Ability Paper
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. Often, a question has two or three parts, and the marks are divided accordingly — so address each part fairly.
2. 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.
3. Make your answers look scientific, not just theoretical. Use flowcharts and diagrams wherever they add clarity.
4. Neatness matters — keep your handwriting clean, avoid cutting or overwriting.
5. Mind your spelling and grammar — while GSA doesn't deduct marks for these, your expression leaves a lasting impression.
6. 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! 🌟

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CSS-2026

General Knowledge

General Science and Ability

Part-II

Question no: 6

(a) Describe the structure of universe as per big bang theory.

Introduction:

The big bang theory states that the universe began about 13.8 billion years ago from an extremely hot, dense, and compact state (called singularity). Space and time themselves came into existence at this moment. The universe then started expanding rapidly.

Stages of big bang theory:

1) The universe began from an extremely hot and dense singularity

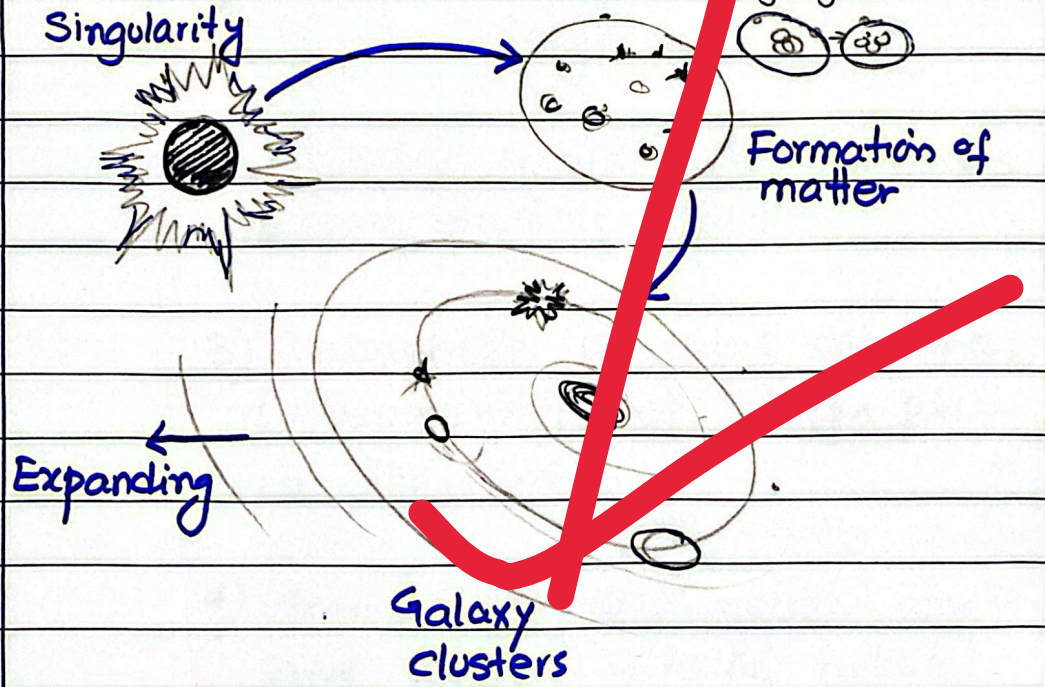
2) A rapid expansion known as the big bang created time and space.

3) As the universe expanded, it cooled down gradually.

4) Fundamental particles formed and combined to make atoms.

5) Gravity caused matter to clump into stars and galaxies.

6) Large scale structures like clusters and superclusters developed over time.



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(b) Uninary system and working of nephron

Urinary system:

The urinary system is a body system responsible for removing waste products, regulating water and salt balance, and maintaining homeostasis. It consists of

- Kindneys
- Ureters
- Urinary bladder
- Urethra.

Working of Nephron:

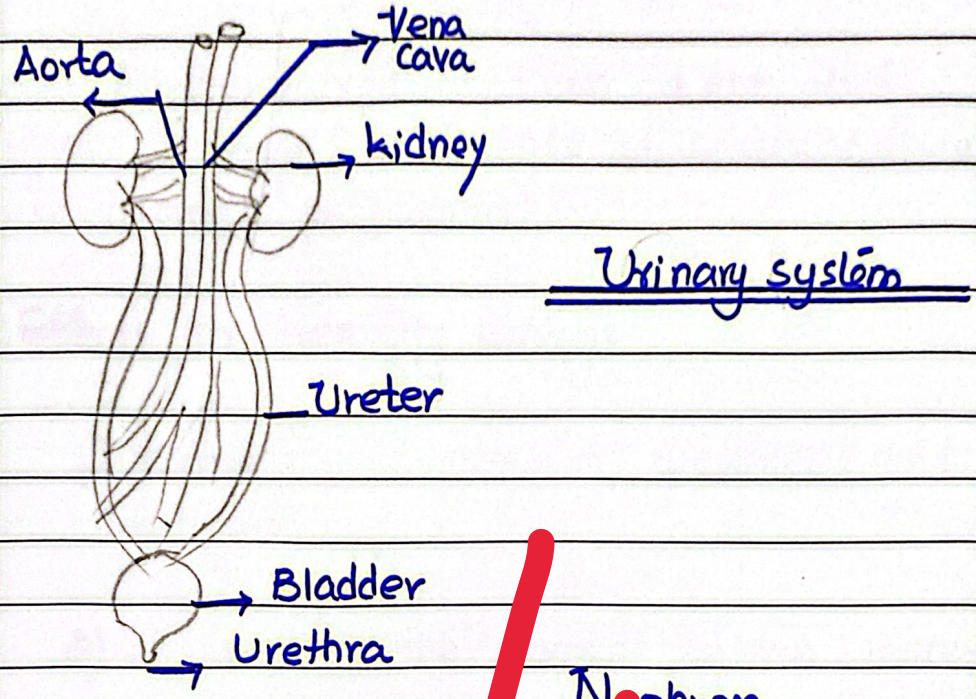
1) A nephron is the functional unit of the kidney

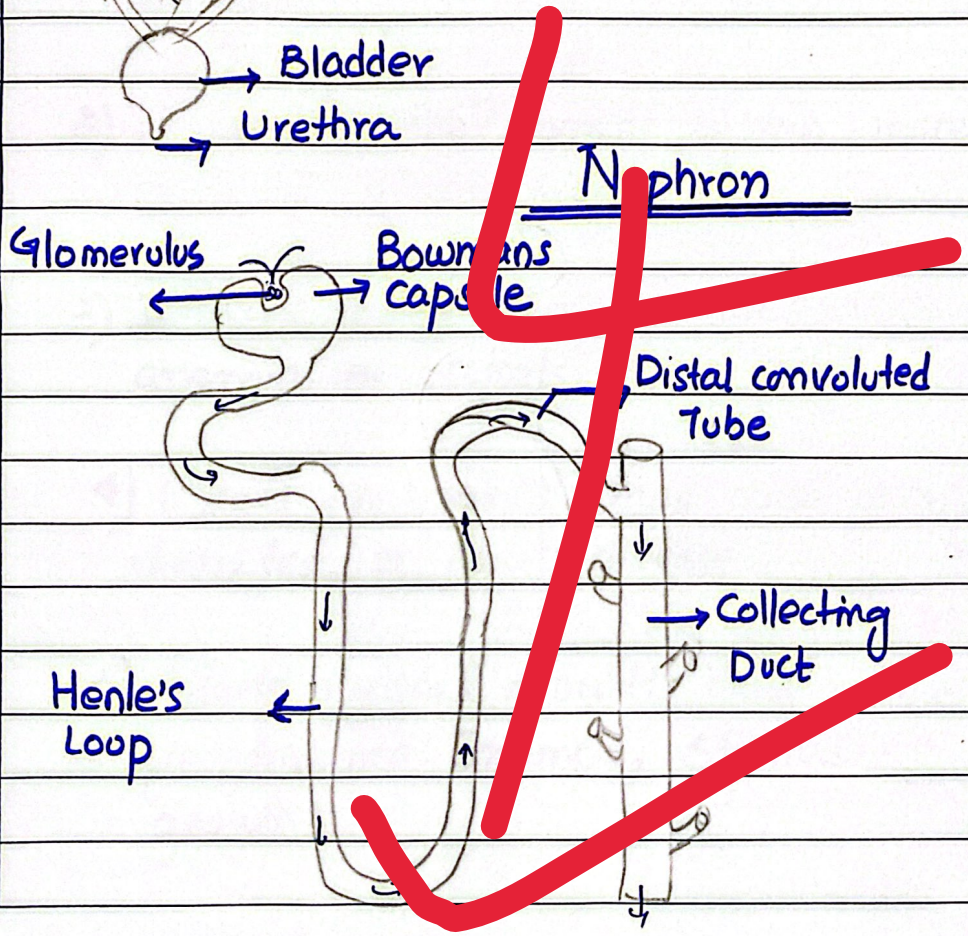
2) Filtration occurs in the glomerulus where blood is filtered.

3) Reabsorbtion of useful substances (glucose, salts, water) takes place in the tubales.

4) Secretion removes excess ions and wastes into the tubule:

5) The remaining fluid forms urine, which flows to the collecting duct.





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(C) Unbalanced diet and its effect on healthy living-

Unbalanced diet (Definition):

An unbalanced diet is the one that lacks essential nutrients or contains them in incorrect proportions.

Effects on healthy living:

1) It causes malnutrition, weakness, and fatigue.

2) It weakens the immune system, increasing the disease risk.

3) It leads to deficiency diseases like anemia or rickets.

4) Excess nutrients may cause obesity, diabetes, or heart disease.

5) Affects physical growth and mental performance. Example, Stunted growth.

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(d) Structure and functions of cell wall, cell membrane, cytoplasm, and mitochondria.

1) Cell Wall:

Structure: Rigid outer layer made of cellulose (in plants).

Functions:

1) Provides shape and protection
2) Prevents cell bursting
3) Maintains cell rigidity

2) Cell membrane:

Structure: Thin, flexible, selectively Permeable membrane.

Functions:

1) Controls movement of substances
2) Maintains internal environment
3) Protects the cell.

3) Cytoplasm:

Structure: Jelly-like substance inside the cell membrane

Functions:

1) Site of metabolic activities
2) Holds cell organelles
3) Helps in transport of material

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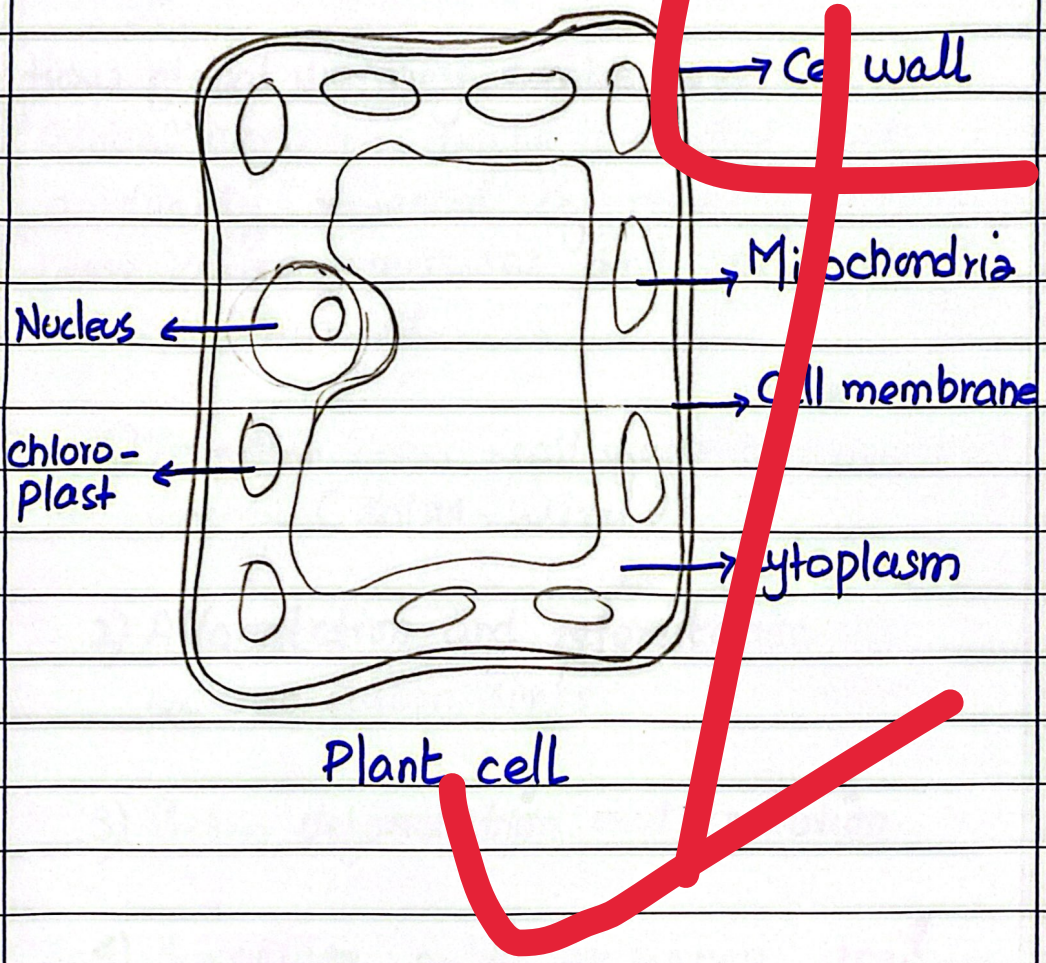
4) Mitochondria:

Structure: Double membraned organelle with folded inner membrane (cristae).

Function:

1) Produces energy
2) Site of cellular respiration
3) Known as the powerhouse of the cell.



Plant cell

Question no: 3

(a) How global warming can be reversed?

Global warming:

Global warming is the gradual increase in Earth's average temperature caused mainly by the accumulation of green house gases in the atmosphere.

How global warming can be reversed?

Global warming can be controlled and gradually reversed by reducing green-house gases emissions and protecting the environment.

1) Transition from fossil fuel to renewable energy (solar, wind).

2) Afforestation and reforestation to increase carbon sinks.

3) Reduce deforestation and pollution.

4) Encourage public awareness and sustainable lifestyle.

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5) Designing sustainable, walkable neighbourhoods.

(b) Ceramics: definition, properties and application.

Definition: Ceramics are hard, non metallic, inorganic materials made by heating minerals at high temprature.

Properties of ceramics:

1) It has high hardness and strength.
2) It is heat resistant
3) It is poor conductor of heat and electricity.
4) It is resistant to corrosion and chemicals.
5) It is brittle in nature.

Applications of ceramics:

1) It is used for making pots, tiles, and bricks.
2) It is used in electrical insulators
3) It is also used in dental and bone implants.
4) Used as heat shields and engine parts
5) Often used in laboratory equipments.

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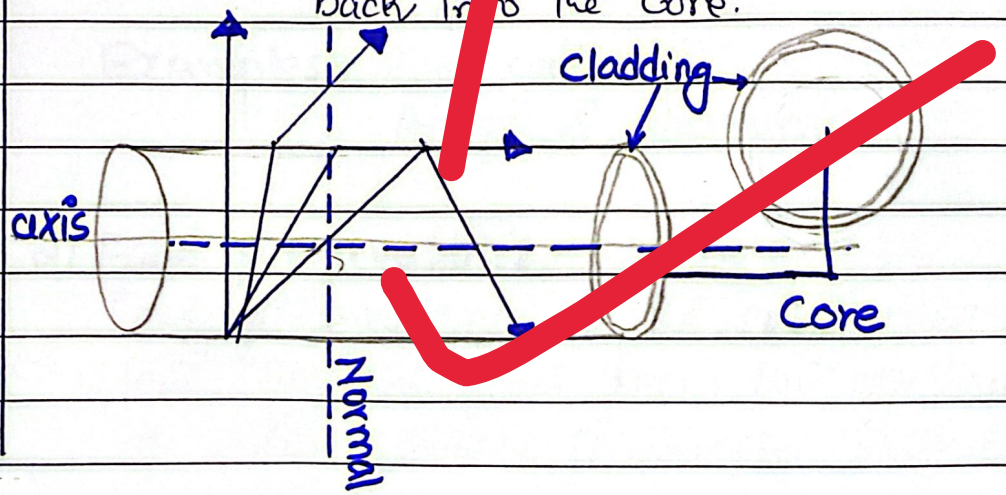
(C) Explain the working of fiber optics and mobile phones.

Fiber optics: Optical Fiber is a thin, flexible strand of glass or plastic that transmits data in the form of light signals over long distances.

Working of Fiber optics:

1) It transmits data as light signals.
2) Light travels by total internal reflection inside the fiber.
3) Used for fast communication with minimum signal loss.
4) **Core:** The central part made of glass or plastic where light travels.
5) **Cladding:** The outer layer surrounding the core that reflects light back into the core.



Mobile phones:

1) A mobile phone converts sounds into electrical signals

2) Signals are transmitted as radio waves to the nearest cell tower.

3) The tower connects calls and data through a network.

4) The incoming signals are converted back into sound

(d) Define the following and give examples.

1) Food additives:

Food additives are the substances added to food to improve taste, colour, or texture.

Examples: Food colours
Artificial flavours.

2) Food preservatives:

Food preservatives are the substances that prevent food from the spoilage of microorganisms. It increases shelf life

of food

Example: Sodium chloride
Sodium Benzoate

3) Food adulteration:
Food adulteration is the process of the addition of harmful or inferior substances to food.

Example: Mixing water in milk
Brick powder in spices.

4) Food contamination:
Food contamination is the presence of harmful microbes or chemicals in food.

Example: Bacteria in moulded food
Pesticide residues.

Section-B

Question no 8

A) There are 5 different houses....

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Solution:

1) A is the right of B = B A

2) E is the left of C and right of A = A E C

3) B is the right of D = D B

Arranging based on above clues.

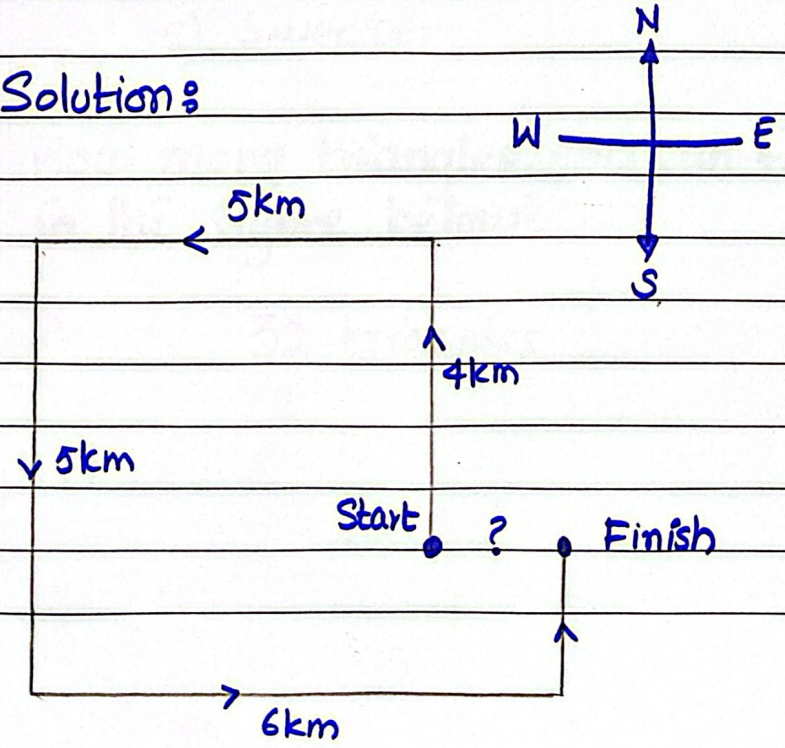
D B A E C

So,

The house in the middle is (A).

(B) If you start running ..... Which direction you have to run?

Solution:



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Solution:

1) Distance from the start = 1km

2) Direction while finishing = North

3) Direction of 1st second turn = South

4) Direction to go back to start = West

(C) Find the odd man out of the following anagrams.

1) Shirt
2) Coat
3) Close
4) Skirt
5) Sweater

(D) How many triangles you can find in the figure below?

32 triangles

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(c) A man is 24 years old ---- present age of son is?

Solution:

The man is 24 years older than his son today

$$M = S + 24$$

In two years, the man's age $(M+2)$ will be twice of son's age $(S+2)$

$$M+2 = 2(S+2)$$

Solving the equation

$$(S+24)+2 = 2(S+2)$$
$$S+26 = 2S+4$$
$$26-4 = 2S-S$$
$$22 = S$$

Son's age is = 22 years

(B) On selling 17 balls ..... cost price of ball is.

Solution:

let the cost price of 1 ball = x

The loss = cost of 5 balls = 5x

selling 17 ball for 720

Total cost = 720 + 5x

Cost of 17 balls = 17x

So;

$$17x = 720 + 5x$$

$$17x - 5x = 720$$

$$12x = 720$$

$$x = \frac{720}{12}$$

$$x = 60$$

The cost price of one ball is 60 Rs.

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Question no: 7

(A) If 40% of a number -----

Solution:

Let first number = A

Let Second number = B

Drawing equation from statement

40% of is equal to 2/3 of B

$$0.4 \times A = \frac{2}{3} \times$$

$$\frac{2}{10}\cancel{4}\ A = \frac{2}{3}\ B$$

$$\frac{2}{5} A = \frac{2}{3} B$$

$$\frac{1}{5} A = \frac{1}{3} B$$

$$3A = 5B$$

$$A \quad B = 5$$

(d) Rashid and Kamran are working.... .... assignment of 110 pages?

Solution:

Rashid types 32 pages in 6 hours, so in one hour he types

$$\frac{32}{6} = 5.33 \text{ pages/hour}$$

Kamran types 40 pages in 5 hours, so in one houre he types

$$\frac{40}{5} = 8 \text{ pages/hour}$$

Rashid and kamran togeth type 1page in one hour =

$$5.33 + 8$$

$$13.33 \text{ pages/hour}$$

How long to type 110 pages

$$\frac{110}{13.33} = 8.25 \text{ hours}$$

They will take 8 hours 15 minutes to type 110 pages togelher.