

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 an 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! ✨

(b).

Urinary system

The urinary system filter waste and excess fluid from the blood to produce urine, maintaining the body's water, electrolyte and pH balance and consists of kidneys, ureters, bladder and urethra.

Structure and function of nephron

Nephrons are the structural and functional unit of kidney. Nephrons are arranged along both cortex and medulla region.

There is a cup shape structure present at proximal end of nephron called Bowman's Capsule. From

Bowman's capsule there arises a long narrow tube, which is further divided into 3 parts

- convoluted part as proximal
- long U shape part
- distal tubule.

The function of one nephron includes filtering, reabsorbing and secreting glutamate, carbohydrates and solutes.

(C)

Unbalanced Diet:

A diet which lacks all the essential nutrients of food in a proper portion is called unbalanced diet.

An unbalanced diet example is one heavy processed foods, sugar drinks and refined carbs like (chips, soda, white bread, pastries while lacking fresh fruits vegetables, whole grain and sufficient protein.

Effects of unbalanced diet

While relying on a balanced diet is good for health but an unbalanced diet can lead to negative effects of human health. An unbalanced diet in health leads to major health problems like obesity, Type 2 diabetes, heart disease, cancers and hypertension. It weakens the immune system and can be very harmful in a long run. One might see the effects of unbalanced diet in late old age.

Q3.

(a)

While Global warming cannot be reversed overnight but it can be slow and limited by reducing human emissions of heat-trapping gases and black carbon. Alternative methods to slow or reduce global warming have been proposed that are collectively known as "climate engineering" or geoengineering. Some geoengineering proposals involve cooling Earth's surface by injecting reflective particles into upper atmosphere to scatter and reflect sunlight back to space.

(c)

Working of optic fibers:

An optical fiber transmits information as light, not electricity, using total internal reflection

Core → thin glass / plastic with high refractive index.

Cladding → surrounding layer with lower refractive index.

Jacket → mechanical protection

The

1. Light enters the fiber at a suitable acceptance angle.
 2. Inside the core, the light hits the core-cladding boundary.
 3. Because the core has a higher refractive index, light reflects back entirely instead of escaping.
- The reflection repeats along the fiber, guiding light over long distances.

Working of a Mobile phone

A mobile phone is a two-way radio system connected to a cellular network.

The coverage area is divided into cells. Each cell has a cell tower.

The phone is always connects to the nearest tower.

Section - B

(a).

- Ahson's brother's only daughter - Ahson's niece
 - That niece is the granddaughter of the woman.
- So the woman must be the mother of Ahson's brother → Ahson's Mother.

(b).

Given Data

Ratio of Length : Breadth = 3:2

$$\text{Speed} = 12 \text{ km/hr}$$

$$\text{time} = 8 \text{ mins}$$

$$= 8 \times 60$$

$$= 480 \text{ secs or}$$

$$2/15 \text{ hr}$$

find ~~per~~ perimeter.

$$\text{Distance} = \text{Speed} \times \text{Time}$$

$$= 12 \times \frac{2}{15} = 1.6 \text{ km}$$

$$P = 1600 \text{ m}$$

Let dimensions

$$\text{Length} = 3n$$

$$\text{width} = 2n$$

Perimeter

$$2(3n + 2n) = 10n = 1600$$

$$n = 160$$

$$\text{Area} = 3n \times 2n = 6n^2$$

$$= 6(160)^2$$

$$153600 \text{ sq. m}$$

(c)

Given.

- Unit digit = Ten digits + 2
- Number \times (sum of digits) = 144

Let ten digit = x Unit digit = $x + 2$

$$\text{Number} = 10x + (x + 2) = 11x + 2$$

$$\text{Sum of digits} = 2x + 2$$

$$(11x + 2)(2x + 2) = 144$$

$$x = 2$$

$$\text{Number} = 24$$