

Mock Exam
21/10/25
General Science & Ability
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:

Part II: Section I

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. Q#4:-
Ans (A):-
Chlorophyll: Chlorophyll is a green pigment found in plants and algae. It captures sunlight and converts it into chemical energy during photosynthesis. Chlorophyll helps plants to perform photosynthesis by absorbing light energy.
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. Chlorophyll releases oxygen as a by-product. There are different types of chlorophyll mainly A & B that absorb light in the blue and red regions of the spectrum. It helps plants to survive as well as giving them green colour.
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. Role of Ribosomes: For a 5-mark part, show all steps and provide clear explanations.

Ribosomes are the small organelles present in the cytoplasm or attached to the endoplasmic reticulum. They are the site of protein synthesis, ribosomes read mRNA sequence and translate it into chain of amino acids by tRNA. Here's a brief key/sample of your Ability questions
Q.6
a) Candy ratio problem
Given: Packets in flavors Apple : Berry : Cherry : Date = 3 : 6 : 2 : 5.
That amino acid chain then folds into a functional protein. Asked: If Apple candies exceed Date candies by 35, how many Berry candies are there?
as the "protein factories" of the cell.

Note (consistency check): The ratio shows Apple = 3 parts

②: Methods of solid waste management:

→ There are different types of methods used to manage the solid waste:

① Land filling:

In this method, the waste after the collection is compacted and then buried in specially designed sites. It is the most common method but can cause ~~land~~ pollution if not managed properly.

② Recycling:

This method involves the reusing of waste materials like paper, plastic, glass and metals, helps in controlling and managing wastes as well as conserving energy resources.

③ Composting:

In composting, organic wastes such as food and green waste is converted into compost (natural fertilizer) for agricultural use. This method is being promoted to reduce landfill and improve soil health.

④ Open Dumping:

Most common method used in many cities and towns of underdeveloped regions of world. In this method, waste is dumped in open areas without proper treatment at very cheap price but it causes pollution, bad odor and breeding of insects further causing health diseases.

⑤ Source Reduction: This method involves reducing waste generation at the source through efficient use of materials and better product design.

(a) i) Biofuels:

It is a renewable energy source made from organic materials such as crops, algae or animal waste.

→ E.g.: Ethanol from sugarcane
Biodiesel from vegetable oils

Biofuels reduce dependency on fossil fuels and lower carbon emissions.

ii) Adulteration:

The practice of adding low-quality, cheap and harmful substances to products like food, milk or fuel to increase profit resulting in reduced quality and health hazards.

iii) Hydrosphere:

Hydrosphere refers to all the water present on Earth in oceans, rivers, lakes, glaciers, underground and even in the atmosphere. It plays a vital role in climate regulation and support all life forms.

iv) Troposphere:

Troposphere is the lowest layer of Earth's atmosphere about 10-20 km thick where all weather phenomena like clouds, rain and storm occurs. It contains most of the air mass and it is warmest near Earth's surface.

v) Isotopes:

Isotopes are different forms of same element having same number of protons but different numbers of neutrons.

E.g.: (Carbon-12 and Carbon-14) Both are isotopes of carbon.

Q5:

(a) Causes:

(1) High birth rate: Due to lack of family planning and cultural preference for large families.

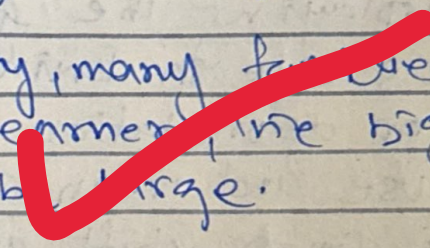
(2) Low literacy Rate:

Rate of literacy is very low especially among poor families women, leading to less or poor awareness about reproductive health.

(3) Early marriages:

Early marriages means the increase period of childbearing years of women.

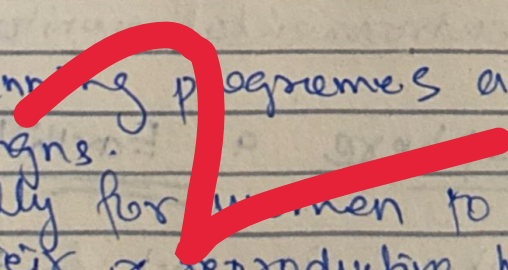
(4) Poverty:

Due to poverty, many families see children as future earners, the big the family income will be. 

(5) Religious factor:

Hesitation towards the using of contraceptives.

Control Measures

(1) Promote family planning programmes and awareness, campaigns. 

(2) Education, especially for women to let them know about their reproductive health.

(3) A little delay in the marriages as well as improving the maternal health services.

(4) Economical development and job creation to break the myth and child dependency to earn.

(5) Provide Incentives to small families by making policies, which may encourage people to number their members.

⑤ Remote Sensing:

RS is the technology of collecting information about Earth's surface without any sort of physical contact. It is usually done through satellites, drones or aircraft sensors. It records data in the form of images used for mapping & monitoring.

→ Role of GIS in Environmental Science:

GIS helps in storing, analyzing and displaying the geographical referenced data. Its role in Environmental sciences are:

- Monitor deforestation
- Land use and urban growth monitoring
- Tracks climate shift & its impacts
- Management of natural resources
- Plan disaster management and conservation projects.

RS and GIS, both provide vital information for environmental monitoring and sustainable planning.

⑥ Atmosphere as Earth's blanket, Justification:

→ Atmosphere is sort of Earth's blanket because:

- ① It helps regulating surface temperature keeping the planet warm enough to sustain life.
- ② Acts as a barrier between Earth and UV rays.
- ③ Contains required gases like CO_2 and O_2 essential for respiration and photosynthesis.
- ④ Supports Ecosystem by changing weather patterns. F.g: Rainfall.

(d) Define:

i) Hydrometer:

Instrument used to measure the density or specific gravity of liquids. ~~also~~ used in laboratories or industries like ~~brewing~~ & battery testing.

ii) Epicenter:

Point on Earth's surface directly above the origin of an earthquake.

iii) Eye wall of cyclone:

~~is~~ a ring of thunderstorms ~~is~~ circling/around the calm eye of cyclone.

iv) Deep focus:

Earthquake that originates below the Earth's surface, typically at depth greater than 300 km within subduction zone.

v) light year:

It is a unit of distance that represents how far the light travels in one year.

Section II :

Q#6:

(a)

Apple : Berry : cherry : Date
3 : 6 : 2 : 5

→ Apple > Date 35
3 : 5 35

$$3x - 5x = 35$$

$$x = 17.5$$

Berry > cherry = 6 ✓

$$\text{Total} = 17.5 \times 6 = 105$$

(b): Camera price = 200 \$
Discount = 25 %
Tax = 6 %

Camera Price after Discount = 150 \$
→ Tax = 6 % of 150 \$
Total Amount to
paid = 150 \$ + 6 % Tax (9 \$)
= 150 + 9
Total Amount = 159 \$.

(c) Bicycle covers = 36 km
Speed = 18 km/h
Time = ?

$$\text{Speed} = \text{Distance} / \text{Time}$$
$$\text{Time} = \text{Distance} / \text{Speed}$$
$$= 36 \text{ km} / 18 \text{ km/h}$$

Time = 2 hours

(d) Unscramble the terms.

(i) STSTAICITS : STATISTICS

(ii) L4EBMA : ALGEBRA

Q#7:

(a) Volume of sphere?

$D = 14 \text{ cm}$
 $\rightarrow \text{Radius} = \frac{D}{2} = \frac{14}{2} = 7 \text{ cm}$

$\text{Volume} = \frac{4}{3} \pi r^3$
 $= \frac{4}{3} \times \frac{22}{7} \times 7^3$

$\text{Volume} = 1437.33 \text{ cm}^3$

(b) Smallest shares

Total savings = 25000 Rs

$\text{Ratio} = 1:2:2:3:4:5$
 $= 15$

$\text{Shares} = \frac{25000}{15} = 1666 \rightarrow \text{smallest share}$

(c) Spot the error:

(i)

$2, 6, 18, 54, 162, 486$
 $\times 3, \times 3, \times 3, \times 3, \times 3$

Note:

No Error found
 All number fit a multiplier of 3 to next number

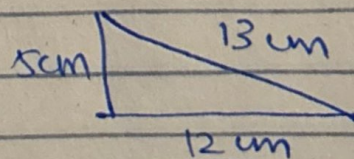
(ii)

3, 5, 7, 11, 13, 15 (complete the series)

(d) Triangle with sides (5, 12, 13) cm : Find angles?

$\sin A = \frac{\text{Per}}{\text{hyp}} = \frac{5}{13} \rightarrow A = \sin^{-1}\left(\frac{5}{13}\right)$

$A = 22.6^\circ$



Right angle Δ

$$\cot B = \frac{\text{Base}}{\text{Hyp}} = \frac{12}{13}$$

$$B = \cot^{-1} \frac{12}{13} = 67.5^\circ$$

$$\tan C = \frac{\text{Per}}{\text{Base}}$$

$$C = \tan^{-1} \left(\frac{5}{12} \right)$$

$$\rightarrow \boxed{C = 90^\circ}$$

$$\rightarrow \left[\begin{array}{l} A = 22.6 \\ B = 67.5 \\ C = 90 \end{array} \right] \text{ All angles are in degrees}$$

