

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.

Here's a brief key/sample of your Ability questions

Mock Exams for CSS 2026
General Science and Ability
073- Ifrah No 40799

Q.6
 a) Candy ratio problem
 Given: Packets in flavors Apple : Berry : Cherry : Date = 3 : 5 : 2 : 5.
 Asked: If Apple candies exceed Date candies by 35, how many Berry candies are there?

Note (consistency check): The ratio shows Apple = 3 parts and Date = 5 parts, so Date is larger than Apple in the ratio. The statement "Apple candies exceed Date candies by 35" contradicts the ratio (Apple cannot exceed Date if ratio is 3:5). Two ways to handle this:

1. If the problem truly intends Apple - Date = 35, that's impossible with the given ratio (would require negative common factor).

2. Most likely the intended meaning is Date exceeds Apple by 35 (i.e. Date - Apple = 35). I will solve that reasonable interpretation.

Section - II

Formula: Let common factor = k, Apple = 3k, Date = 5k.
 So $5k - 3k = 35 \rightarrow 2k = 35$

Solution: $2k = 35 \rightarrow k = 35 \div 2 = 17.5$.
 Berry = $6k = 6 \times 17.5 = 105$.

Answer: 105 Berry candies.
 (If you intended the other wording exactly as written, note that it is inconsistent with the ratio.)

b) Camera discount + tax

Given: Original price = \$200. Discount = 25% off. After discount, 6% tax applied.
 Asked: Total amount paid.

Formula / Steps:
 Discount amount = 25% of 200 = 0.25 × 200 = 50.
 Sale price = 200 - discount.
 Tax = 6% of sale price.
 Total = sale price + tax.

Solution (digit by digit):
 Discount = $200 \times 0.25 = 50$.
 Sale price = $200 - 50 = 150$.
 Tax = $150 \times 0.06 = 9$.
 Total paid = $150 + 9 = 159$.

Answer: \$159.00

c) Bicycle travel time

Given: Distance = 36 km, speed = 18 km/hr, start time = 1:00 PM.
 Asked: Arrival time.

Formula: Time = Distance ÷ Speed

Solution: Time = $36 \div 18 = 2$ hours. Start 1:00 PM + 2 hours = 3:00 PM.

Answer: 3:00 PM

d) Unscramble math terms

i. STATISTICS
 iii. GAMBLER

Q7.
 Given:
 - Diameter (d) = 14 cm
 - Radius (r) = $d/2 = 14/2 = 7$ cm
 - $\pi = 22/7$
 Asked: volume of sphere
 Formula:
 Volume = $(4/3)\pi r^3$
 Now, let's plug in the values:
 Volume = $(4/3) \times (22/7) \times (7)^3$
 = $(4/3) \times 22 \times 7 \times 7$
 = 1437.33 cm^3
 Answer:
 The volume of the sphere is approximately 1437.33 cm^3

b. What is doping? Discuss different types of semiconductors :-

Doping is the process of adding small amount of impurities in a pure semiconductor to improve its electrical conductivity.

Types of semiconductors :-

(b) Five friends' savings (total Rs. 25,000, ratio 1:2:3:4:5)

Given: Total = Rs. 25,000. Ratio = 1 : 2 : 3 : 4 : 5.
 Asked: Smallest share (the "1" part).

Formula: Sum of ratio parts = $1+2+3+4+5 = 15$. Smallest = $(1/15) \times \text{total}$

There are two types of semiconductors.

- n-type semiconductors.
- p-type semiconductors.

1- n-type semiconductors:-

→ They are formed by pentavalent impurity like phosphorus. These atoms donate extra electrons.

2- p-type semiconductors:-

→ They are formed by trivalent impurity like These atoms accept electrons.

c. State some merits and demerits of volcanic eruption:-

Merits:-

Some merits of volcanic eruption include,

- 1- The volcanic ash add minerals to the soil that is beneficial for agriculture.
- 2- They also release gases that are useful for industrial purposes.
- 3- They create mountains and also islands.

Demerits:-

- 1- It causes loss of life.
- 2- Volcanic eruption destroys property and lead to human population displacement.
- 3- The gases that are released from volcanos are toxic and pollute air and atmosphere.

d. What is dengue? Discuss symptomology, causative agents and remedies:-

Dengue is a viral infection caused by a mosquito bite. It is transmitted usually by the *Aedes aegypti* mosquito.

• **Symptoms:-**

Its symptoms include,

1. High fever.
2. Headache.
3. Pain behind eyes.
4. Vomiting.
5. Muscle and joints pain.

• **Causes :-**

Aedes mosquito is the cause of dengue virus.

• **Remedies:-**

No specific treatment exist for dengue virus. But some of the measures taken are using nets, taking rest, hydration and fever control medicines.

Question : 04

c. Discuss different methods of Solid Waste Management:-

Solid Waste Management is the collection, and disposal of solid waste materials in a way that is safer for the environment.

- Some of its methods include,
1. Burying it in special land area.

2. Burning at high temperature to create energy.
3. Recycling some items like plastic, glass and paper etc.

b. Describe the role of ribosomes in protein synthesis:-

- Ribosomes are small organelles found in cytoplasm or they are attached to the rough endoplasmic reticulum. They are made up of RNA and proteins.
- Ribosomes are the sites of protein synthesis. The mRNA that is messenger RNA carries the genetic code from DNA to ribosomes and transfer RNA (tRNA) brings amino acids to ribosomes.
- Ribosomes link amino acids together to form a chain which makes a functional protein.

d. Define the terms:-

i) Biofuel:-

Biofuel is a renewable energy source made from plants and animal waste. They help reduce the dependency on fossil fuels.

ii) Hydrosphere:-

Hydrosphere includes all the water bodies on earth that takes 71% of earth's surface including

lakes, sea, water vapors and ice caps etc.

W) Troposphere:-

Troposphere is the lowest layer of Earth's atmosphere. It extends to 8-15 km above earth surface and contains atmospheric gases.

Section-II

Question : 06

- a. A store has packets of candies in flavors Apple, Berry, Cherry and Date in the ratio 3:6:2:5. If Apple candies exceed Date candies by 35, how many berry candies are there?

- The given ratio is,
Apple : Berry : Cherry : Date = 3:6:2:5

- Let x be the common multiplier,
 $A:B:C:D = 3x:6x:2x:5x$

- If apple candies exceed date by 35,
 $\Rightarrow 3x - 5x = 35$
 $-2x = 35$
 $x = -17.5$ or 17.5

Since,

$$\begin{aligned} \text{Berry} &= 6x = 6(17.5) \\ &= 105 \text{ berry candies.} \end{aligned}$$

- b. A camera priced at 200 \$ gets 25% off plus 6% tax. Calculate the total amount paid:-

- Price = 200 \$
Discount = 25% = $\frac{25}{100} \times 200 = 50$ \$
→ Price after discount = ~~200~~ $200 - 50$
= 150 \$
- Tax = 6% of 150 \$
= $\frac{6}{100} \times 150 = 9$ \$
- Final price = $150 + 9 = \boxed{159}$ \$

- c. A bicycle covers 36 km at 18 km/hr starting at 1pm. What time does it reach?

- Bicycle covers 18 km/hr
~~Which means,~~
- Time = $\frac{\text{distance}}{\text{speed}} = \frac{36 \text{ km}}{18 \text{ km/h}} = 2 \text{ hours}$
- Starting Time = 1pm
- Arrives at 3:00 pm

- d. Unscramble the terms:-

- STSTAICITS
→ STATISTICS
- LGEBMAR
→ ALGEBRA

Date: _____

Day: _____

Question : 07

- a. Calculate volume of a sphere with diameter 14 cm :-

Since,

$$\text{Diameter} = 14 \text{ cm}$$

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

We know that,

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

$$= \frac{4}{3} \times \frac{22}{7} \times (7)^3$$

$$= \frac{4 \times 22 \times 343}{21}$$

$$= \frac{4312}{7} = 616 \text{ cm}^3$$

- b. Five friends, total saving = 25000 Rs.
ratio 1:2:3:4:5 - Find the smallest share :-

$$\Rightarrow \text{Total share} = 1+2+3+4+5$$

$$= 15$$

$$\Rightarrow \text{Savings} = 25000$$

$$\text{Per share contain} = \frac{25000}{15} = \frac{5000}{3}$$

$$= 1666.66$$

hence the smallest share is

$$\boxed{1666.67 \text{ Rs.}}$$

c. Spot the error / Complete the series:-

i. 2, 6, 18, 54, 162, 486

Series contains numbers increasing with by multiplying by 3.

As,

$$2 \times 3 = 6 \times 3 = 18 \times 3 = 54$$

but $162 \times 3 = 648 \rightarrow$ is the error.

Correct series is,

$$2, 6, 18, 54, 162, 648$$

ii. 3, 5, 7, 11, 13, ?

3, 5, 7, 11, 13, 17 (prime numbers)

d. Triangle with sides 5 cm, 12 cm, 13 cm. Find all angles:-

Let the 3 sides be a, b and c respectively then,

$$a = 5 \text{ cm}$$

$$b = 12 \text{ cm}$$

$$c = 13 \text{ cm}$$

$$\text{Since, } (5)^2 + (12)^2 = 169 = (13)^2$$

• means it is a right-angled triangle.

Hence angle opposite to side c is 90°

• Af $\theta_1 = 90^\circ$

Then,

~~$$\cos \theta_1 = \frac{5}{13}$$~~

Also,

~~$$\cos \theta = \frac{(12)^2 + (13)^2}{5^2}$$~~

• $\sin \theta_2 = \frac{5}{13} \Rightarrow \theta_2 = 22.6^\circ$

• $\theta_3 = 180 - 90 - 22.6 \Rightarrow \theta_3 = 67.4^\circ$