

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.

- example: 1) The Map 3 terrain data in online cab booking system is as essential as the oil which runs the cab itself.

Q.6

a) Candy ratio problem

Given: Packets in flavors Apple : Berry : Cherry : Date = 3 : 6 : 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



(Q2 part b)

- The Universe has been expanding since the big bang. The big bang itself happened due to the rapid expansion or explosion.
- This expanding phenomena ~~can~~ has been studied by analyzing the red shift in the spectra of electromagnetic wavelength of distant galaxies & heavenly bodies.
- If dots are drawn on a balloon, & the balloon is inflated dots on the surface of the balloon move apart much like the galaxies in the universe, which are drifting apart due to the expansion of the universe.

(Q2 c)

- A balanced diet constitutes of all the necessary vitamins & minerals required for the proper working of our body, which itself is a chemically composed ~~carbon based~~ carbon based machine.
- Deficiency of Vitamin A causes bad eyesight & night blindness.
- Deficiency of Vitamin D causes our bones to weaken & may result in disease like rickets.
- Deficiency of Vitamin E causes muscle weakness & decreases our immunity.

Q2d)

- GPS consists of satellites, receivers & ground stations
- receiver calculates the position by measuring signals from satellites.
- calculating the difference in signal arrival time, it maps out latitude, longitude & even altitude.
- optical fibers carry data as light through glass fibres at light speed through total internal reflection.
- 2D location: Need 3 satellites for latitude & longitude
- 3D location, 4 satellites (latitude, longitude & even altitude).

Q3-A

- Cells form organelles to divide various functions & work efficiently amongst the various components.
- Mitochondria is the power house of the cell.
- It produces energy (ATP) through respiration

Q3-B

- ~~Add~~ Doping is the addition of different elements or impurities to semiconductors to change the conductivity of the material.
- types: N-type: Added impurity gives extra electron
P-type: added impurity creates electron h

130

Q3C

- volcanic eruption. Destroys life & property, pollutes air, causes the climate to cool down drastically and contributes a tremendous amount to global warming.
- Its merits may include increase in soil fertility, can be used for geothermal energy.

(Q3D)

- dengue fever spreads via aedes mosquito.
- Causes High fever, body ache, rash and may also decrease platelets.
- Rest & Medication may alleviate the symptoms.

Section-II

(Q6) A

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

Let the amount of each candy be determined by multiplying its ratio with x .

so, Apple = $3x$, Berry = $6x$, cherry = $2x$, Date = $5x$

$5x - 3x = 35$, since Date candies exceed apple candies by 35.

$x = 17.5$

Berry = $17.5(6) = 105$ candies.

(Q6-B)

Price = 200\$

Discount = 25% = 50\$

Discounted price = 150\$

sales tax = 6% = 9\$

total paid amount = 159\$

(Q6-C)

speed = 18 km/h, distance = 36 km, starting time = 1 pm
Bicycle arrives at 3 pm.

(Q6-D)

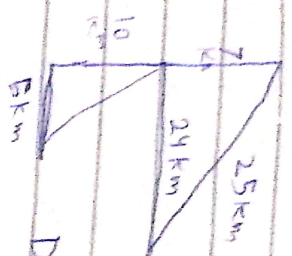
(i) Statistics
(ii) Grammar.

~~(Q7A)~~

(Q8A)

$$H^2 = 10^2 + 15^2 = 325$$

$$H = 25$$



Total distance travelled
 $= (24 + 25 + 10 + 15) \text{ km}$
 $= 71 \text{ km}$

Distance from the start
 $= H^2 = \sqrt{150 + 25}$
 $= \sqrt{175}$
 $= 13.228$

Rough work:

$$11 \times 11 = 121, 11.5 \times 11.5 = 132.25$$

$$12 \times 12 = 144, 11.8 \times 11.8 = 139.24$$

$$11.2 \times 11.2 = 125.44, (11.18)^2 = 125$$

(Q8B)

Total = 9000\$

$B = 3C, \frac{1}{2}x = 3C, C = \frac{x}{6}$

$C = 4D, \frac{x}{6} = 4D, D = \frac{x}{24}$

$D = 2F, \frac{x}{24} = 2F, F = \frac{x}{48}$

Total = $x + \frac{1}{2}x + \frac{x}{6} + \frac{x}{24} + \frac{x}{48}$

$= 48x + 24x + 8x + 2x + 2x = 9000$

$84x = 9000$

$x = 107.14$

Power Depreciation

$A = \frac{1}{2}B, B = 2x, C = \frac{2}{3}x$

$C = 4D, \frac{2}{3}x = 4D, D = \frac{x}{6}$

$D = 2F, \frac{x}{6} = 2F, F = \frac{x}{12}$

$x + 2x + \frac{2}{3}x + \frac{2}{12}x + \frac{2}{24}x = 9000$

- $24x + 48x + 16x + 4x + 8x = 9000 \times 24$

$$100x = 9000 \times 24$$

$$x = \frac{9000 \times 24}{100} = 2160$$

$$B = 2x = 4320, C = \frac{2}{3}(2160) = 1440$$

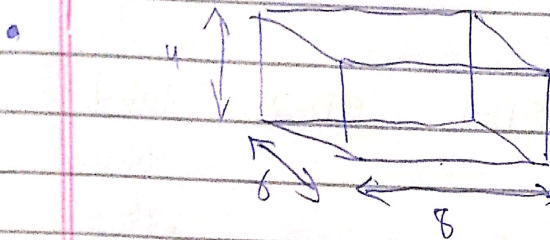
$$D = \frac{2}{3}(2160) = 1440, C = 4D, D = 360$$

$$D = 2E, E = 180 = F = 180$$

Q

(Q8C)

- ~~Area~~ Volume = 192 m^3



- Surface Area = $(24 \times 2) + (48 \times 2) + (32 \times 2)$
 $= (48 + 96 + 64) \text{ m}^2$
 $= 208 \text{ m}^2$

(Q8D)

- Family of 8 = 4 men, 4 women

- Avg Consumption of Family = $\frac{122}{2} = 61 \text{ kg}$

- After Anna joins Avg consumption = 67 kg

- Consumption of family = $288 + 200 = 488$

- Total consumption with Anna = $67 \times 9 = 603$

- Consumption of Anna in kg = 115 kg