

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! ✨

②

~~(8(b))~~

Son of my sister's husband
↓
Father of your son.



man $\rightarrow A$

A's sister = B $\rightarrow$ husband

$A+B$

↓

D = father of your son
(woman's husband).

Women is Daughter-in-law
of the man.
(Nephew's wife).

~~(C)~~

Sequences

④ 4, 12, 6, 18, 9, 27, —
8 -6 12 -9 18

4, 12, 6, 18, 9, 27, 53
13.5

13.5

$x - 26 = 27$
 $x = 27 + 26$
53

7
27
9
18
④ ⑥ ⑧
8, 12, 18
18
27
9
6
13
27
9
4
8, 12, 18, 26
13
2

~~(c)~~

11) 1, 2, 6, 24, 120, —

1, 2, 6, 24, 120, 720

$\begin{matrix} 1 \nearrow & 2 \nearrow & 6 \nearrow & 24 \nearrow & 120 \nearrow \\ x_2 & x_3 & x_4 & x_5 & x_6 \end{matrix}$

$$120 \times 6 = 720$$

Explanation:

Started from 1
every # is multiplied
by 2, then 3, then 4 &
so on.

$$1 \times 2 = 2$$

$$2 \times 3 = 6$$

$$6 \times 4 = 24$$

$$24 \times 5 = 120$$

$$120 \times 6 = 720$$

~~(d)~~

P, Q, R, S, T $\rightarrow$ diff heights

① R P Q

② Q S T

③ shortest = 150cm

Tallest = 180cm

3rd tallest = ?

Possible range of each height = ?

(4)

Q. 1

Height of all

R P Q S T

Height of R = 150 cm

Height of T = 180 cm

3rd tallest : Q

Maximum possible
range = $180 - 150 = 30$

~~$d(Q \neq 7)$~~

~~$d(d)$~~

Let son's age = S

Father's age = F

$$4(S - 10) = (F - 10)$$

$$4S - 40 = F - 10 \quad \text{--- (1)}$$

$$S + F = 75 \quad \text{--- (2)}$$

$$S + F = 75$$

Current ages = ?

$$4S - 40 = F - 10 \quad \text{--- (i)}$$

$$S + F = 75 \quad \text{--- (ii)}$$

$$4S - F = -10 + 40$$

$$4S - F = 30 \quad \text{--- (iii)}$$

$$S + F = 75 \quad \text{--- (ii)}$$

$$5S = 105$$

$$S = \frac{105}{5} = 21$$

$$S = 21$$

$$S + F = 75 \Rightarrow 21 + F = 75$$

$$F = 75 - 21$$

$$F = 54$$

$$F = 54$$

Present age of Son &
Father are 21 &
54 respectively

~~Q (a)~~

$$\text{Total} = 100$$

watches: Cricket = 65

Hockey = 40

Nothing = 20

8

$$100 - 20 = 80$$

$$80 \rightarrow 65 \rightarrow \text{Cricket}$$

$$\rightarrow 40 \rightarrow \text{Hockey}$$

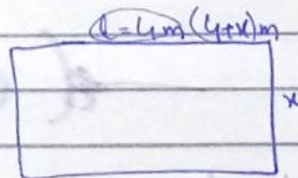
$$65 + 40 = 105 \rightarrow (\text{the other one})$$

105 watches Cricket & Hockey.

$$105 - 80 = 25$$

25 among 100
watches both

~~a (b)~~



let width = x

length = $4+x$

$$\text{Perimeter} = 72m$$

V of water needed

to fill it depth of 2.5m.

$$\text{As perimeter} = 2(l+w).$$

$$P = 2(l+w)$$

$$72 = 2(4+x+x)$$

$$72 = 2(4+x+x)$$

$$72 = 2(4 + x)$$

$$72 = 8 + 2x$$

$$4x = 72 - 8$$

$$x = \frac{64}{4}$$

$$x = 16m$$

$$\text{width} = 16m$$

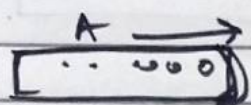
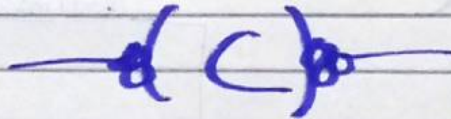
$$\text{length} = 4 + 16 = 20m$$

$$V = 16 \times 20 \times 2.5$$

$$V = 800m^3$$

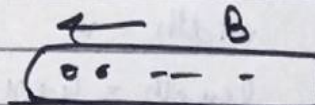
$$V = 800m^3$$

$$\begin{array}{r} 16 \\ \times 25 \\ \hline 80 \\ 320 \\ \hline 400 \\ \times 20 \\ \hline 800 \\ \hline 800 \end{array}$$



8:00AM

60 km/hr



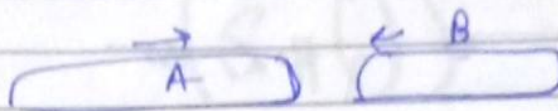
8:00AM

40 km/hr

Distance b/w A & B = 400 km.

8

As both move towards each other.



Relative speed is added in this case.

$$60 \text{ km/hr} + 40 \text{ km/hr}$$

$$V = 100 \text{ km/hr}$$

As $V = \frac{\text{distance}}{\text{time}}$

$$\text{time} = \frac{\text{distance}}{\text{speed}} = \frac{400}{100} = 4 \text{ hr}$$

$$\begin{array}{r} \text{Started at } 9:00 \\ + 4 \\ \hline 12:00 \end{array}$$

Both will meet at 12:00 noon

Section I

(Q#2)

(a)

Star

Part of solar system which constitute the the center. All other particles revolve around it.

Example = Sun

They have their own energy & are luminous.

Revolve around black hole

Temperature is great due to exothermic reaction

Planets

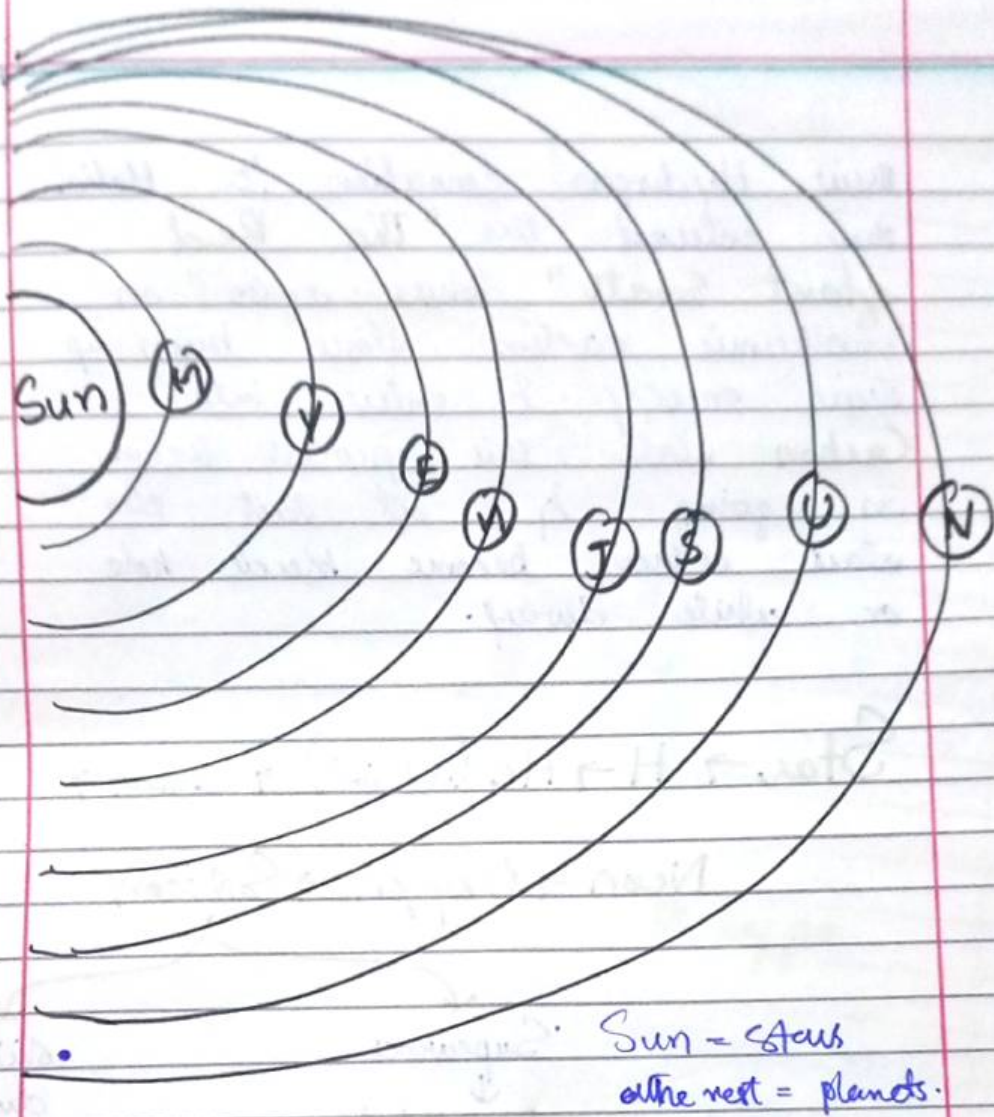
Part of solar system which revolve around the star.

Example = All 8 planets of our solar system

They are non-luminous objects.

Revolve around star

Temperature of diff planets is diff, earth's temperature is suitable for life among all.

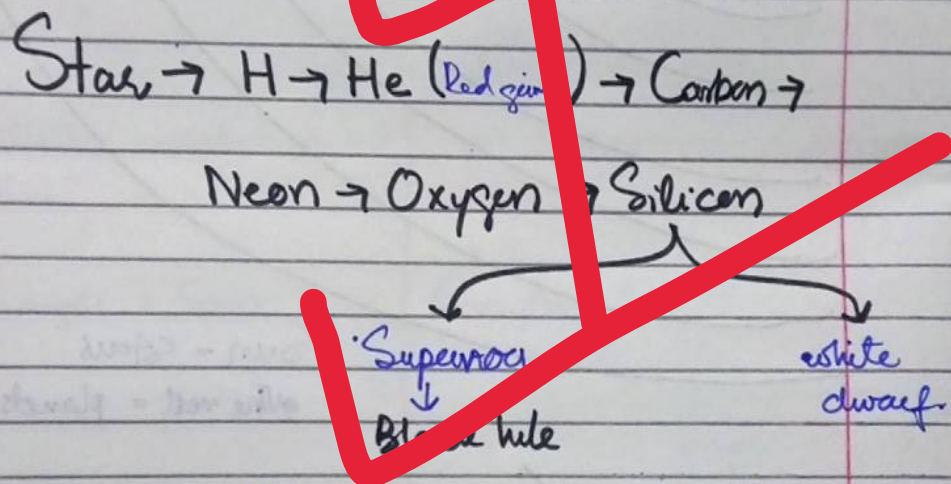


Life cycle of Stars:

Life cycle of stars begin at Nebula & ends up either at black hole or at white dwarf.

Stars have constant nuclear reaction which produce heat and light, but this process doesn't last forever. After a time when stars finish up

their Hydrogen conversion to Helium they entered the "The Red giant State" where again an exothermic reaction starts burning up their energy & enter into Carbon state. This process keeps on going at last the stars either become black hole or white dwarf.



When a star burns up all its ingredients it convert to supernova (only the big stars), it is a type of black hole which attract all debris of space to its center. The supernova is formed when star size goes on increasing as it move from H → Silicon & at last must end form supernova which is actually a black hole.

(b)

Semiconductor:

"The materials whose conductivity is between conductor & insulators are semiconductor."

Such materials partially allow the conduction of heat & electricity & therefore are widely used in many projects worldwide.

N-type

The type of SC where numbers of electrons are higher.

Pentavalent atoms form such type
Phosphorous, Arsenic

One electron is excess

Majority charge carrier = electron

Minority is hole

P-type

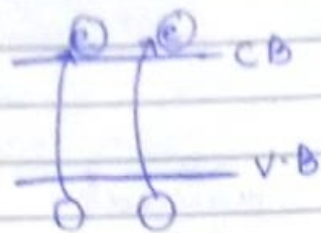
The type of SC where numbers of electrons are lower.

Formed by Trivalent atoms.
Boron, Al

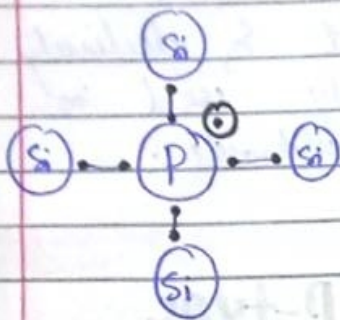
One electron is deficient here

Majority charge carrier is hole.

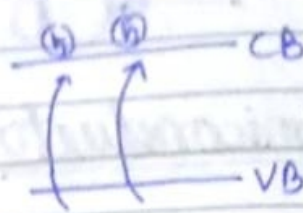
Minority is electrons



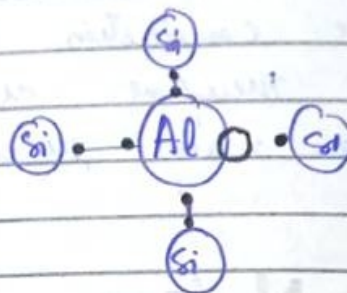
Electron donors



One extra electron



Electron acceptor



One electron needed

Modern Application:

① Solar cells:

Solar cells
uses p-n junction & convert
sun-light into electricity.

solar fans
calculators
solar panels

① ICs:

Integrated circuits use billions of p-type & n-type transistors to make the modern electronic devices like:

Computers

Phone

Smart watches

→ (C) →

Global warming:

"The phenomena in which earth temperature rises from its normal one is termed as global warming."

Mechanism of
Green house effect:

"Sunlight is trapped inside the earth atmosphere due to certain gases this phenomenon is known as GHE."

Farmers use the mechanism of GHE in order to trap more heat & light of sun for better photosynthesis. For this

They instal a glass panel above their crops. The sun light when enter this panel ~~are~~ is trapped inside as its wavelengths decreases & then it become hard for such waves to exit. This phenomena created by ~~that~~ human help plants to ~~be~~ more light & so ~~the~~ the crop yield can be increase in such way. ~~Alaska~~ have bigger (giant) size fruits & vegetables b/c there the sunlight is for ~~upto~~ for 20 hours a day which help farmers to ~~grow~~ more and even bigger crops than ordinary. But again anything "Everything that is in excess become destruction rather than a benefit." Same is the case in GHGs when such gases increases they trap more heat & light than necessary & ultimately results in global warming.

Major GHG:

(i) CO₂

(ii) CH₄

(iii) N₂O

(18)
CO₂ is caused by fuel
combustion, respiration.

Methane is caused produced naturally
in earth pockets & also
by cattle.

Nitrous Oxide is produced due
to industrial process.

~~and d/o~~

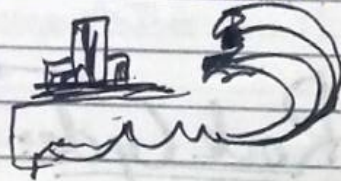
Tsunami:

It is coined from
two Japanese words;

Tsu → harbor

Nami → waves

"Tsunami is the destructive
waves arise in ocean which when
comes to shore produced immense
destruction."



Natural processes that trigger it:

- (i) The tectonic plate
movement causes the water
of the ocean to displace
with pressure & eventually cause
become the reason of its production.
- (ii) The land slides or the break
down of ice also triggers

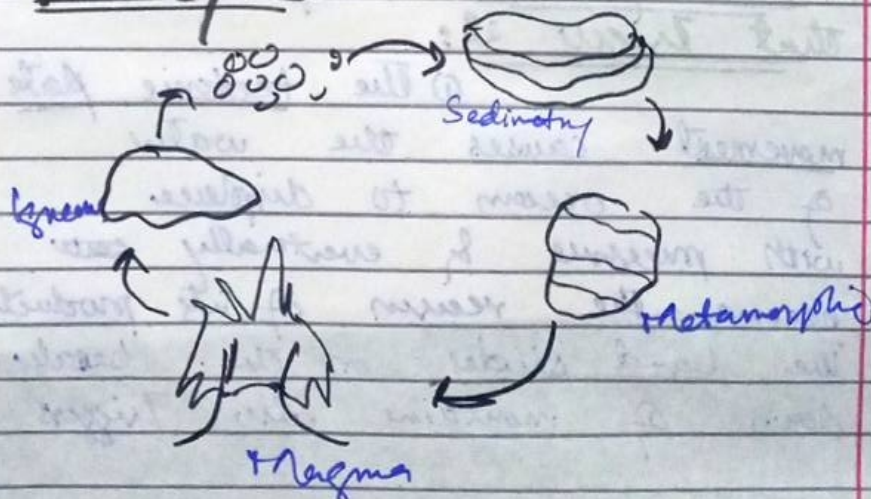
- the process.
- (a) Volcanic activities can also trigger its production

Potential Impacts on Coastal areas:

- It can cause destruction of coastal areas
- (i) Loss of life & injuries
 - (ii) Destruction of infrastructure
 - (iii) Environmental & economical losses
 - (iv) Flooding & land erosion
 - (v) Populations are displaced

~~(Q#4)~~

Rock Cycle:



(8)

Magma is molten form of rock which on cooling become igneous rock, after weathering igneous rocks are converted into sediments which on cementation become sedimentary rocks, when heat & pressure is applied on sedimentary they convert to metamorphic & on melting to Magma.

Igneous Rocks:

Hard, crystalline rocks formed by solidification of molten lava.

eg: Granite, Basalt.

Sedimentary Rocks:

Layered rocks formed by the cementation of sediments.

eg: Limestone.

Metamorphic:

Type of rock formed by heat & pressure applied on existing rock.

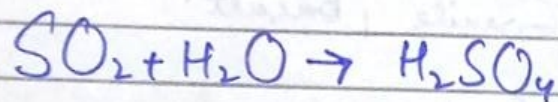
eg: Marble, Slate.

Acid rain:

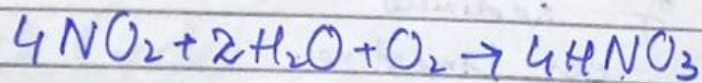
"When oxides of Sulphur & Nitrogen combine with other gases of the atmosphere they form sulphuric & nitric acids which results in acid rain."

Chemical rxn:

⇒ Combustion → SO_2 which combine with H_2O in atmosphere as:



⇒ Vehicles → NO_2



Impacts:

- ① It lowers PH which causes death of fishes & other aquatic species.
- ② Releases toxic metals & disrupts the food cycle.

① leaves are affected, plants diseases & small yield of crops are the major impacts of acid rain in vegetation.

~~d/d~~

Solid Waste management

"The collection, transportation, processing & recycling of solid waste is known as SWM."

Environmental
hazard associated
with urban waste.

The environmental hazards are air, water & soil pollution which affect health, biodiversity & environmental problems along all these it also produces drainage problems.

~~(C)~~

Remote sensing

the process of collecting information from different sources without direct physical contact is known as remote sensing.

GIS

Geographic Information System

"It is a computer-based system to store, collect & analyse the geographical data of any location."

Monitoring & Disaster

management:

- ① Remote sensing provides real time data about earth's surface which can be used for flood management, storm early tracking & earthquake assessment.
- ② GIS is used for risk mapping, early warning, & evacuation planning before it's too late.