

Dos and Don'ts for General Science & Ability Paper

Hi there, you've done well. Know that acquiring knowledge is one thing and reproducing it in paper according to what's asked is another. There are a few things I would like to highlight.

1. A 5 marks part requires at least 2 and at max 3 sides of a paper. Know that there can be two or three parts of a question and their marks are divided accordingly. So, address all of them in a just manner.
2. Focus on time management. You get 35 minutes to solve one question and about 8 minutes per 5 mark part. Manage your time accordingly.
3. You need to understand that your paper is supposed to look more scientific than theoretical. So, add flowcharts and diagrams where required.
4. Your handwriting and neatness can be really impactful. Avoid cutting and overwriting.
5. Focus on your spellings and your grammar. Here, in GSA there's no deduction in marks but your expression will definitely create an impact.
6. In ability portion, give explanation for analytical ability question in words. You need to understand that a 5 mark part requires all steps written and explained.

Good luck for CSS 2025. You're gonna rock in sha Allah. :)

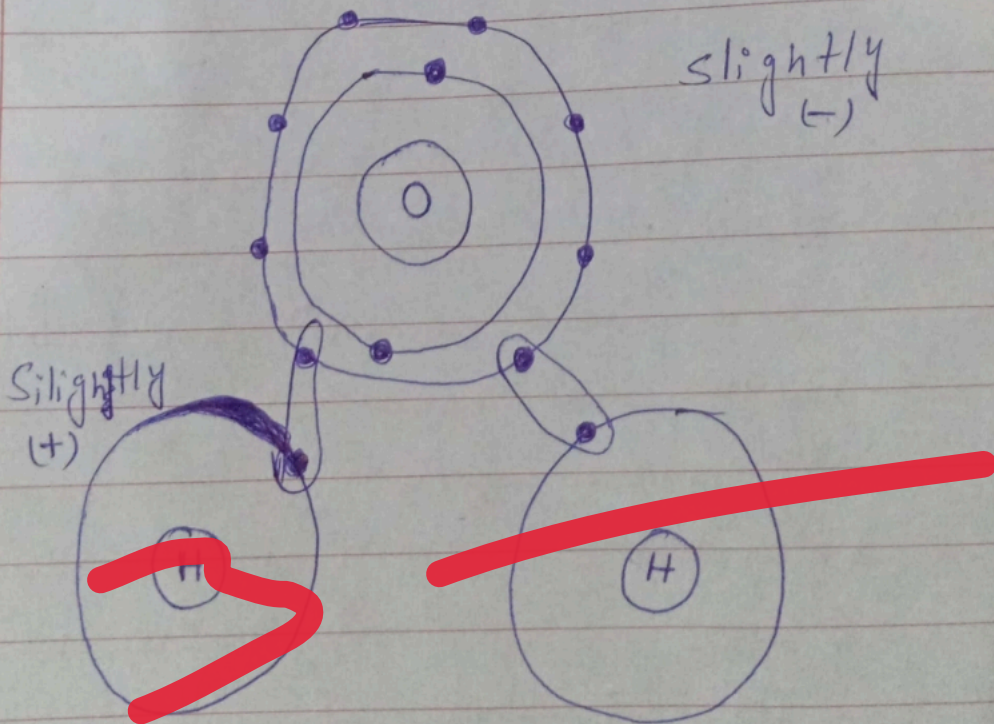
d: Obtaining electron to complete 2 electron in valence shell is called duplet rule

e: The tendency to gain 8 electrons in valence shell is called octet rule.

Covalent bond:

Bond in which one or two/more pairs of electrons are shared by two atoms is covalent bond

Example water molecule



Water is polar due to uneven

distribution of electrons
between oxygen and hydrogen.
b. what is Doping? Discuss
different types of Ceramics.

Doping.

Doping is the process of adding some impurities in a pure semi-conductor in order to increase its conductivity.

Example: ① Doping of Silicon with boron.

Purpose of Doping

Doping is used for the purpose

- 1 - modulating electrical
- 2 - optical
- 3 - structural properties
- 4 - Dopant, A Doping agent is

→ a trace of impurity element that is introduced into a chemical material to alter its original electrical and optical properties.

Types:

- ① N-Type
- P-Type

We need doping in a semiconductor because the band gap is so small for semiconductor. Doping with small amount of a impurities can increase the conductivity of the material.

Types of Ceramics

Ceramic is an inorganic non-metallic solid material primarily held in ionic and covalent bond.

There are two types of ceramic

- 1- Crystalline
- 2- non-crystalline.

Crystalline :

Crystalline ceramic materials are not amenable to ~~great~~ range of processing.

Ceramic forming techniques included shaping by hand or rotation process

called throwing e.g. slip casting, injection modeling, dry pressing ect.

Focus on your presentation

Non-Crystalline

Non-crystalline ceramics, being glass, tend to be formed from metals.

The glass is shaped when either fully molten, by casting or state of coffee-like viscosity, by method like 'Blowing' widely used to making cook-top ect.

State some of the merits and demerits of global warming?

Global Warming:

Global warming is the phenomenon of a gradual increase in the temperature

Near the earth's surface
This phenomenon has been
observed over the past
one or two centuries.
The temperature of earth's
increase due to green
house gases effects
e.g. CO₂, CFCs, and
other pollutants.

Merits :

① Prevents ice age :
Ice age is the period
in which the temperature
drops to an extent that
life becomes extremely difficult
on Earth. It is believed
that there has been ~~ice~~
ages till date with regular
warmer intervals. This could
prevent the next ice age
from happening.

② Better agriculture production:
The change in climate
has resulted in varying
length of different seasons.

In many places winter has reduced giving way to summer. There are some places where the growing season has prolonged.

This would mean improved agriculture productivity.

③ Use of Northwest Passage

Due to the ice sheets many parts around arctic are unfit for travel. There is sea route in Northern Canada called Northwest passage that reduce the travel time between Europe and Asia. This route only use during warmer days.

So due to ice melts due to global warming, this route can be used more frequently.

Demerits:

① melting of ice:

The rise in temperature will lead to the melting of

ice in the polar regions.
This means an increase
in sea level. A rise
in sea level cause

② floods in low-lying areas.
Effects plant growth:
Plants require an optimum
temperature and rainfall
to grow well. The recent
years have seen unpredictable
rainfall and weather conditions.
This would affect their
growth and even lead
toward extinction.

③ Deaths and Diseases:
The changing conditions of
weather have ~~already~~
taken a toll of lives.
many diseases are caused
as the ~~temperature~~ keeps
on fluctuating.

d. what is polio? what are
the challenges in eradication
of polio in Pakistan?

Polio :

Polio is an illness caused by virus that mainly affects nerves in the spinal cord or brain stem.

In most severe form of Polio a person can lead to paralysis. It can also lead to trouble in breathing and some time death.

Challenges to Pakistan

Pakistan faces many challenges in the eradication of Polio.

As Pakistan remains one of the last two countries, one is Afghanistan and other is Pakistan.

① Security situations:

The security situation in Pakistan is biggest

obstacle in Polio eradication. According to Health authorities

102 Polio field workers and security personnel have been killed include in polio Campaign.

② Religion believes of people. As polio vaccine made in Europe countries, so people believes that it is not good for their children.

③ Boarder with Afghanistan. As Pakistan has boarder with Afghanistan and their is migration of peoples occure due to which polio did not eradicate properly in Pakistan.

Q: 4

a. Write a note on liver
Juice "Bile."

Liver is dark brown wedge-shaped organ in human body. It is the largest gland in human

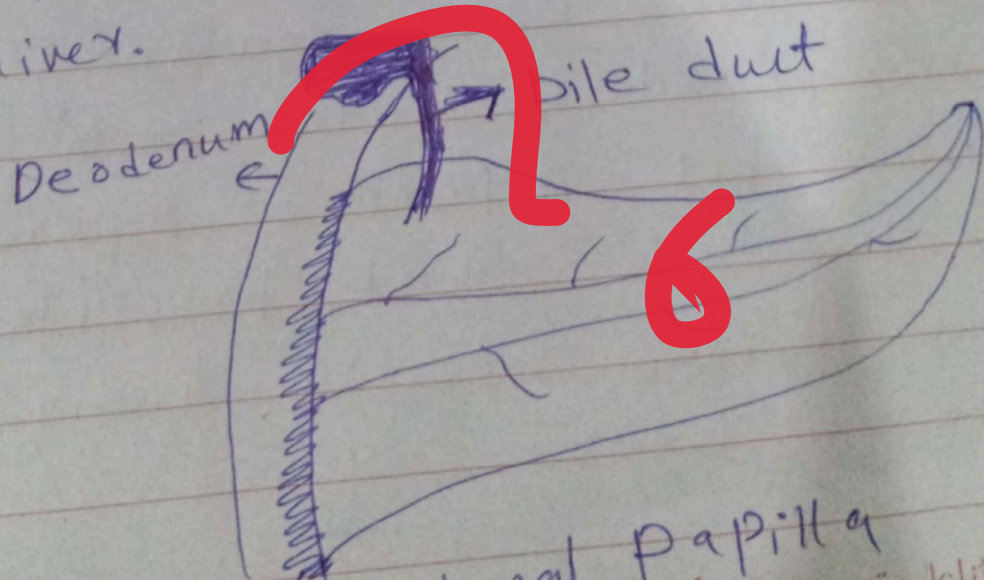
body. Its secretion is known as bile, which enters into the duodenum through bile duct.

→ Bile contains no enzymes but it contains pigments which give it green colour

→ Bile also contains salts which help in the breakdown of fats

→ When there is accumulation of cholesterol in liver it traps pigments of bile which results

into gall stones. Bile pigments are formed from the breakdown of haemoglobin in the liver.



b. Describe role of Kidney in excretion.

The system in which metabolic waste products are excreted out of the body is called "excretory system".

A pair of kidney is present in human body which function is to excrete waste from body.

→ Nephron is the structural and functional unit of kidney.

Nephrons are arranged along the both cortex and medulla region. which collectively take part in excretion.

Working of Nephrons

- ① Filtration: Blood containing waste products enter into glomerulus, a part of nephrons. Due to high blood pressure and porous walls, blood is filtered here.

2 Reabsorption:

All the use full ingredients of filtrate like glucose, salts and water is reabsorbed in the proximal loop of henel and distal part of the nephron.

3- Secretion:

The inner layer of the nephron also secrete nitrogenous waste products into the lumen of nephron.

All the waste products then enter in collecting duct. which enters opens into Pelvis. from Pelvis these enter into the Ureter then store in the urinary bladder from there excreted out side through Urethra.

Proper explanation is required

c. Discuss Different methods of Solid waste management.

Solid waste management.

The technique to dispose Solid refusal off industries

and home in such a way that minimizing the risk of adverse impact on human beings, plant and aquatic life. Effect of dumping waste in to sea and water bodies cover more than 70% of earth surface and food and minerals.

The dumping of waste from houses, factories and industrial material in to water adversely effect humans animals and aquatic life.

Methods :

① Land fill :

The municipal solid waste is mainly disposed of by dumping off in a land fill. The land fill is digging a large hole in the ground after dumping off the waste material the hole should be closed.

②

② Sanitary Land fill:

A Sanitary landfill is a pit with a protected bottom where trash is buried in layers and compressed to make it more solid, it allowing safe decomposition.

③ Incineration:

Waste treatment process in which solid waste is burned at high temperature at 900 to 1000°C. It reduce the bulk of solid waste.

④ Recycling of Waste:

Some materials like paper, plastic, glass and aluminum, can be recycled.

Recycling should be done because it reduces pollutants and

other components like Polystyrene bag which are dangerous to environment, can be put again in use.

Add diagram

SECTION-II

Q: Find the volume of cylinder with radius 30 cm and height 1 m.

$r = 30 \text{ cm}$

$h = 1 \text{ m}$

as ~~Volume of cylinder = $2\pi r^2 h$~~

$\pi = 3.14$

Volume = $3.14 (30)^2 (1)$

Volume = $3.14 (900)$

$V = 2,826 \text{ cm}^3$

Q: The average age

$3 : 5 : 7$

$x = ?$

$3 : 5 : 7 : x$

~~$\frac{3}{5} = \frac{7}{x}$~~

~~$3x = 7 \times 5$~~

~~$x = \frac{35}{3}$~~

~~$x = 35/3$~~

Q: Identify the series

(i) $8, 19, 52, 151, 417$

ii) 11, 13, 17, 19, 23 —
11, 13, 17, 19, 23, 25, 29.

d) If a \triangle is angle —
Each angle = ?

