

Dos and Don'ts for General Science & Ability Paper

1)

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 :)

their water flows.

Fifteen million people worldwide are at risk of glacial lake flooding, with two millions of them in Pakistan.

~~2020-2021~~ - 2023 - scientific journal Nature communications
Repost:

3- Hurricanes flooding towns:

When a hurricane strikes a coastal area, it brings a number of serious hazards. These hazards include heavy rains, high winds and pushes seawater on shore, flooding towns near coast.

4- Deforestation:

Lack of trees means that more water readily runs off on surface without being intercepted. It leads to smooth flow of floods.

5- Dams ~~infrastructure~~ infrastructure:

In event of huge rainfall, the dams built begin to collapse. Thus making flood situation worse.

How Floods of 2022 were different from Super floods of 2010

2010

2022 Floods

From 15 June to October 2022, floods in Pakistan were due to;

- a) 8 cycles of monsoon rains
- b) melting glaciers that followed a severe heat wave

2) They affected one third area of Pakistan.

2010 Floods

These floods were in late July, 2010, resulting from heavy monsoon rains which affected

Indus river basin. It is only monsoon rain that caused these super floods in Pakistan.

These floods affected

- a) Punjab Sindh
- b) Baluchistan, KPK

2) They affected one ~~third~~ area of Pakistan. But they were high to very high floods.

NDMA (National disaster management Authority) role in floods

- ① There was no epidemic because of ~~no~~ NDMA measures after floods.
- ② The return of displaced people to shelter areas was facilitated by NDMA.
- ③ WATAN cards were launched to support victims of 2010 flood by Pakistan. NADRA

4) NDMA attracted foreign people through media to collect funds for victims of 2022 floods.

In late September 2022, Angelina Jolie spent 3 days in Pakistan meeting with with residents who were preserving after severe floods.

4(b)

Star

1) It is a luminous ball of gas, mostly hydrogen and helium, held together by its own gravity.

2) There are billion trillions of stars in sky.

3) UY Scuti is largest star in universe.

4) Proxima Centauri is closest star to our planet.

5) stars revolve around pole star

Planet

1) Any of the large bodies that revolve around the sun in solar system

2) There are eight planets;

- a) Mercury
- b) Venus
- c) Mars
- d) Earth

- e) Saturn
- f) Neptune
- g) Uranus
- h) Jupiter

3) Largest planet is Jupiter and smallest one is mercury

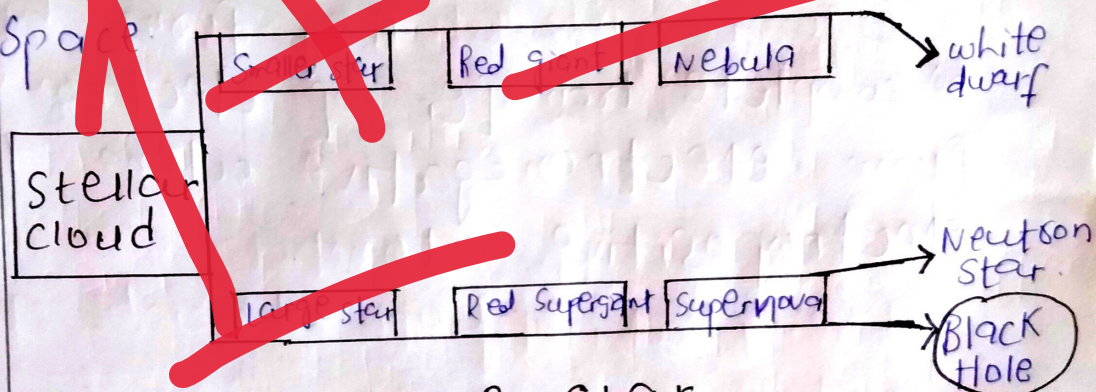
4) Mercury is closest to sun and Neptune is farthest.

5) Sun is a star around which all planets revolve.

All parts should be addressed properly

Formation of Blackhole from a star :-

Stellar black holes form when center of a very massive star collapses in upon itself. This collapse also causes supernova or exploding star that blasts part of star into space.



(Life cycle of star
for Black hole)

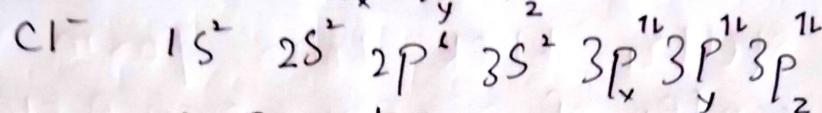
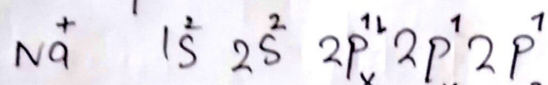
Reason of $4e^-$ atoms forming chemical bonds :- Atoms form chemical bonds because of following 3 reasons,

- 1- To gain stability. Everything in world wants to become stable. So, atoms also want to gain stability.
- 2- To decrease their energy. Atoms form bonds to decrease their energy to gain stability.
- 3- To complete their octet and

duplet rule: Atoms want to complete their duplet (attaining of two electrons).

EXMPLE of Duplet Rule: H_2 (Hydrogen gas), He

Example of octet rule: NaCl (sodium chloride)

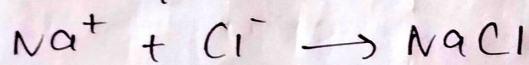


Chemical Bonds of Atoms:

Atoms form following 2 types of chemical bonds:-

① Ionic Bonds: They form by complete transfer of electrons from electronegative atom to electropositive atom.

Example: sodium chloride



② Covalent Bonds: They form by mutual sharing of electrons between atoms.

Example: CH_4 , H_2

③ Coordination Covalent Bond: When donor atom donates electrons to electron deficient atom, this dative bond is formed.

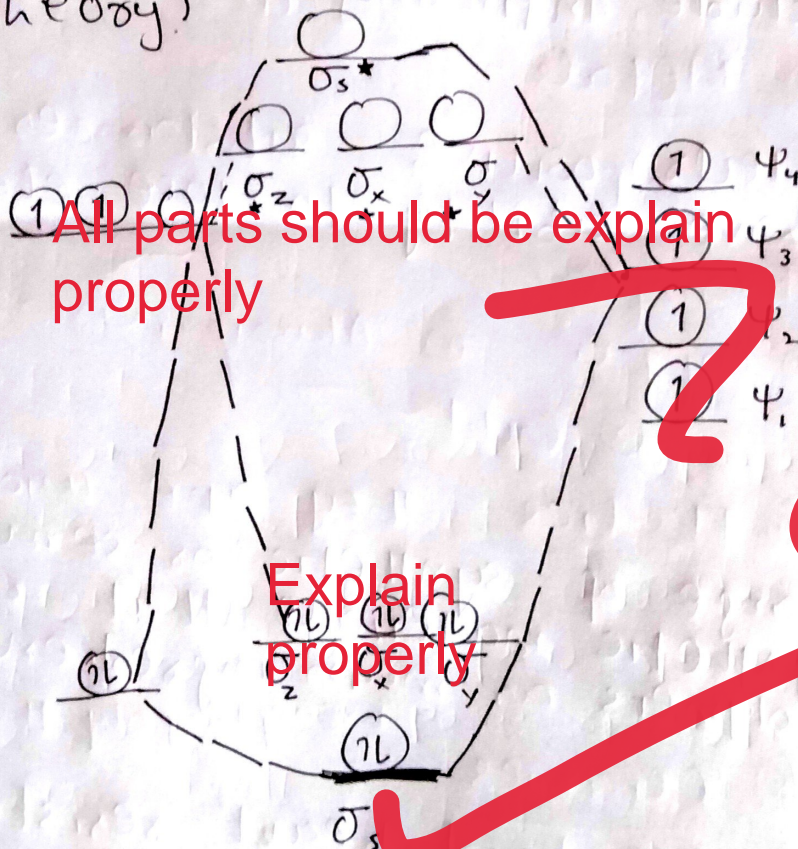
Example: NH_3 and BF_3 form this bond

Structure of water:

(a) Following water bonds are in water;
polar covalent bonds

(b) Following Bonds are among
water molecules;
Hydrogen Bonds

water structure
water structure can be explained
through MOT (Molecular Orbital
Theory)



4 (d)
Conductors :- They are substances
which allow movement of
electrons. There are 2

types of conductors:-

- 1- Electric Conductors : pure silver
Best conductor
- 2- Thermal Conductors

② Semiconductors:- They are materials used in electrical circuits and components that partially conduct electricity.
Examples: Elemental semiconductors include; Antimony, Arsenic, Boron.

③ Metals:-

Electropositive substances which have ability to lose electrons.

Examples:

- ① copper
- ② Aluminium
- ③ Gold.

④ Plastics :- They are a wide range of synthetic or semi synthetic materials that use polymers as main ingredient.
Example: polyethylene

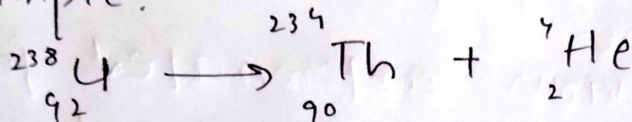
⑤ Ceramics:-

Brittle, hard, heat resistant, collision resistant materials made by shaping and then firing inorganic, non-metallic material (clay) at high T. Example: Porcelain

Q. no-5
5(a)

Radioactivity:- It is process of release of energy from decay of nuclei of certain kinds of atoms and isotopes.

Example:-



Natural radioactivity

① Heavy elements having atomic number greater than 83 like uranium, thorium exhibit natural radioactivity.

② It occurs spontaneously.

Add diagrams where necessary

③ Most of times, this process cannot be controlled.

Example:
④ Uranium does natural radioactivity.

Artificial radioactivity

① Both light and heavy elements exhibit artificial radioactivity.

② It occurs in presence of external influence.

③ This process is controllable.

④ Example:
Americium-241 does artificial radioactivity.

Polio:-

Polio myelitis is an infectious disease caused by poliovirus. It causes mild or no symptoms in some people. But it cause paralyzes in some people.

Causes:-

- polio virus contaminated food
- polio virus contaminated water
- not using polio vaccine.

Symptoms.

- Fever
- Fatigue
- Stiffness of neck
- Pain in limbs.
- Severe muscle aches
- menigitis

paralysis

Fears of children's health as polio re-emerges in 1993 in August, 2014.

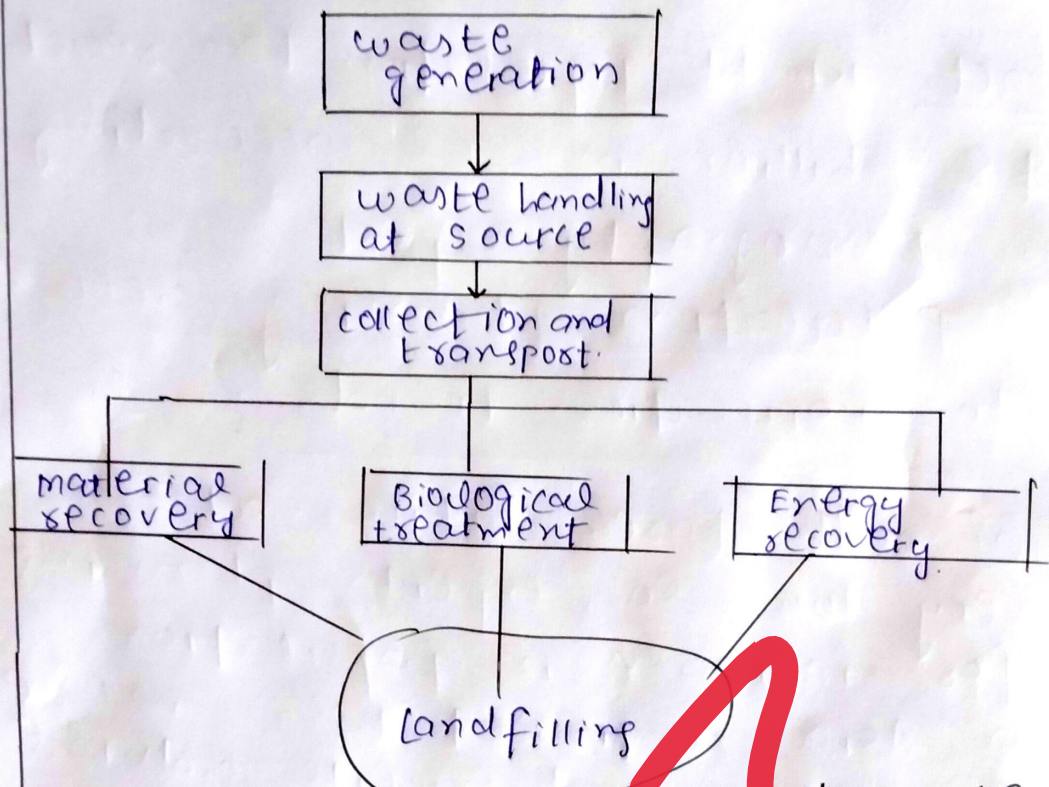
Prevention

- ① Use polio vaccine
- ② Avoid using contaminated food which have suspect of polio virus
- ③ immunization

vaccine:- IPV (inactivated poliovirus vaccine)

5(c)
" Solid waste management:
It refers to complete process
of collecting, treating and disposal
of solid wastes.

steps:-



Issues / challenges of solid waste management in Pakistan:

- 1- No proper waste collection system
- 2- waste is dumped on streets
- 3- There are no controlled sanitary landfill sites
- 4- Citizens are not aware of waste disposal.

5 (d)
12 Population Planning:-
Practice of managing growth rate of a human population. It deals with overpopulation in demographic studies.

Explain properly

Fact: World Population has reached 8.2 billion in 2024 according to Demography report.

Population Planning according to population trends:-

(a) South Korea fertile rate is very low. So, experts planning for increase in population

(b) Asia continent has more population and experts advise population decrease in this region.

Benefits of Population Planning

- 1- It reduces poverty
- 2- It saves lives of mothers and babies
- 3- Its main benefit is empowerment of women by controlled birth rates
- 4- More resources for controlled population