Dos and Don'ts for Generaral 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.

8 but in 34 we have to add 10 so it is different.

C). A tower ..... tower?

Ans

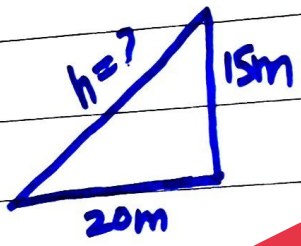
Data

hight = 15m

base = 20m

arial distance = ?

Sol



So According to pythagorean theorem

$(hyp)^2 = (height)^2 + (base)^2$

$(hyp)^2 = (15)^2 + (20m)^2$

$(hyp)^2 = 225m^2 + 400m^2$

$(hyp)^2 = 625m^2$

taking square root on both side

$\sqrt{(hyp)^2} = \sqrt{625m^2}$

$hyp = \sqrt{5^2 \times 5^2 m^2}$

$hyp = 25m$

So arial distance is **25m**

ب ك ل

5 | 625

5 | 125

5 | 25

5 | 5

| 1

$= 5^2 \times 5^2$

d). In a hotel ..... 5th date of the month?

Ans

Tariff for odd dates (5th, 7th..) = 1000
Tariff for even dates (6th, 8th) = 2000
Total payment = 30000
Total days = ?

Sol

Average of odd and even dates is

$$x = \frac{2000 + 1000}{2}$$

$$x = \frac{3000}{2} = 1500$$

average tariff of two days = 1500
total payment = 30000
from average we can find total days as

$$\text{no of days} = \frac{30000}{1500} \times 2$$

no of days = 20 days Ans.

8

a). Faisal ..... halls?

Cider view is like isosceles triangle and its formula is

$$\text{Area} = \frac{1}{2} \times b \times h$$

b = base of isosceles triangle

h = height from apex to triangle

b). In a mixture ..... added?

c) Total mixture = 60 litre

ratio of milk = 2

ratio of water = 1

total = 2 + 1 = 3

So

$$\text{Milk} = \frac{2}{3} \times \frac{20}{60} = 40 \text{ litre}$$

$$\text{Water} = \frac{1}{3} \times \frac{20}{60} = 20 \text{ litre}$$

The new ratio is

$= 1 : 2$

the quantity of water to be added $= 20 + x$

So

$$\frac{\text{Quantity of milk}}{\text{" of water}} = \frac{1}{2}$$

$$\frac{40}{20 + x} = \frac{1}{2}$$

$$2(40) = 1(20 + x)$$

$$80 = 20 + x$$

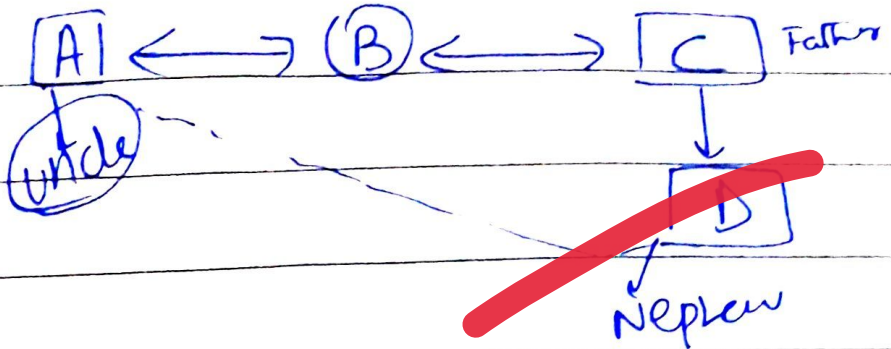
$$80 - 20 = x$$

$$60 = x$$

Hence $x = 60$ litre

Its new quantity for 1:2

C. If A ..... male member?



A is uncle of D(nephew).

d). In a certain code ROAR is written as URDU How then URDU will be ... ?

R → U
O → R
A → D
R → U

Rough

A B C D E
F G H I J
K L M N O
P Q R S T
U V W X Y
Z

① 2 step
② 2 step
③ 2 step
④ 2 step

U → X
R → U
D → G
U → X

In same code URDU will be written XUGX.

Section I.

QNo-4

a). What are main causes of floods? How floods of 2022 were different from superflood of 2010? Explain role of NDMA in this regard?

Ans

Flood is defined as the process where water flowing through confined streams or other body overflows submerge to areas not usually affected by normal water flow.

Causes of floods.

The major causes of floods are

Meteorological causes.

Floods arises due to intense rainfall, cyclones, somehow due to storms and tidal surges.

Hydrological causes.

Due to global warming temperature of earth increases

According to **NASA** "latest average anomaly in 2024 is rised from 1.4°C ___ 2.5°". Rise in temperature cause ice and snow to melt that causes floods.

Anthropogenic causes.

Floods caused due to human activities i.e deforestation, Urbanization, Greenhouse gases, global warming are major reasons of climate change which results in floods.

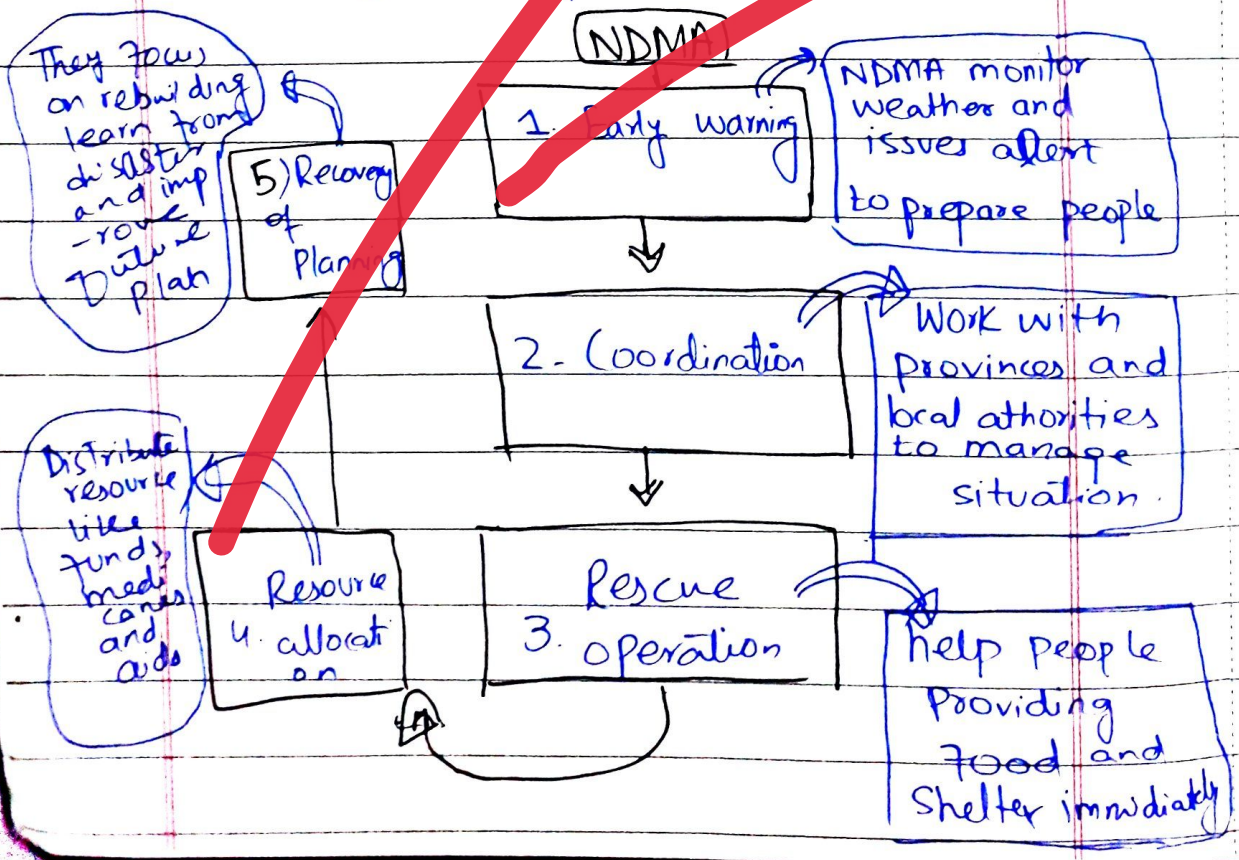
- **Flood of 2022 is different from super-flood of 2010.**

Aspects	2010 floods	2022 floods
Geographically	① It concentrated along indus river affecting KPK, Punjab and Sindh	① Its widespread with severe impact across Balochistan, Sindh, and other regions
Causes	② Due to monsoon rains	② due to monsoon rains, glaciers melt

		Somehow by climate change.
Intensity	② Intense but shorter period	③ Intense & longer period lasting several weeks
People affected	④ Approximately 20 million people	④ Approximately 33 million people
Economic Impact	⑤ This affect only agricultural and infrastructure damage	⑤ More extensive economic loss including infrastructure housing.

Role of NDMA

NDMA stands for national disasters



b). Differentiate btw star and planet. How a star becomes a black hole?

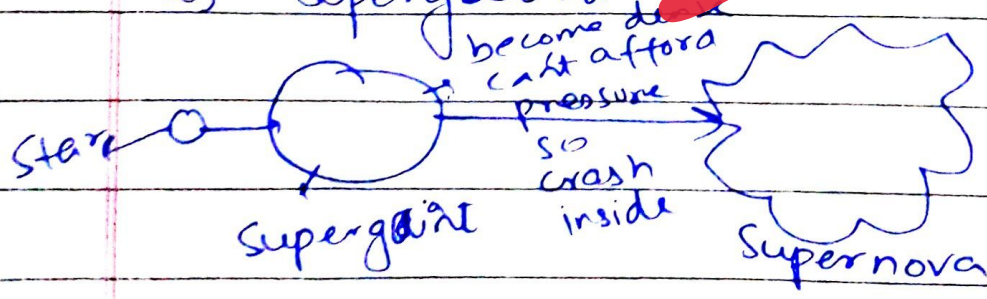
Ans

Star	Planets
1. Composition	
① Stars are composed of hydrogen and helium mainly exist in plasma state.	① Planets are made up of various elements including metal, rocks, gas and ice.
2. Energy.	
② Star produces their own energy by nuclear fusion.	② Planets do not produce energy through nuclear fusion.
3. Size.	
③ They are big in Size	③ They are small in Size
4. Shape	
④ They are dot shaped	④ They are sphere shaped
5. Number	
① There is only one Star in solar system	① There are 8 planets in our solar system

6. Twinkle.	
⑥ Stars twinkle in the sky	⑥ Planets do not twinkle
7- Orbits.	
⑦ Stars remain fixed in space making steller structures and galaries.	⑦ Planets orbit stars due to gravitational attraction

How a stars becomes a black hole.

Stars more than six times as massive as our sun called massive stars - Hydrogen is core of massive stars after only 50 -100 million years no hydrogen left. At this time core collapses and star becomes 1000 times greater than orginal size known as Supergaiant



Date
Day

At the time SuperNova Light of Star become much more than all other stars of galaxy. Great shell of gases fly only tiny core of stars remain that contain only neutrons known as neutron star. It is extremely dense. Some time supernova explosion massive stars become black hole. Thus black hole is the last stage of life cycle of massive stars.

c).

Why do atom forms bond? Explain structure of water.

Ans

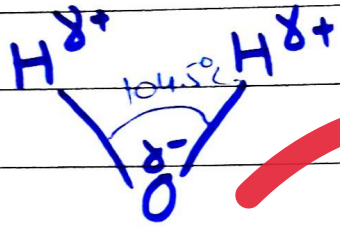
Atom forms chemical bond for attaing two or eight electron in its outer-most shells attaing the stability just like nobel gases. The form bond by different way

- By gaining electrons

. by loosing electrons
. by sharing electrons

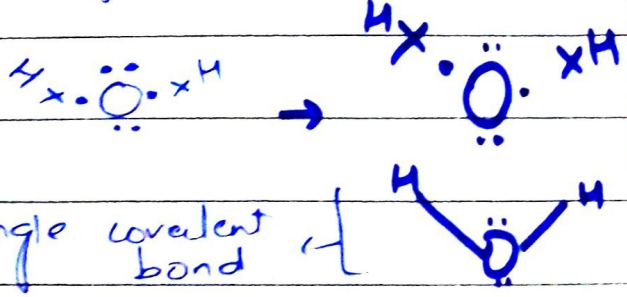
Structure of water.

The structure of water is V shaped.



Explain properly

- They form polar bond b/w partially positive charge hydrogen and partial negative charge oxygen atom.
- Its angle 104.5°C
- Its bonding is $_{8}O = 1s^2 \boxed{2s^2, 2p^4}$



Its single covalent bond

d).

1 Conductors.

Conductors are the material having free electron through

Date:

which current flow easily.
For example.

- Copper used in electrical wiring
- Aluminium used in electrical transmission

2. Semiconductors

Semiconductors are the materials that have electrical conductivity between conductors and insulators. Their conductivity can be changed by adding impurities or by temperature.

- Silicon used in solar cells and computer chips
- Germenium used in transistors and diodes.

3. Metals

- These are solid at room temperature except mercury which is liquid at room temperature.
- They have high electrical conductivity and are malleable.

Day Date

ductile.

For example transition metals such as

- Gold used in jewelry
- Iron (Fe) used in constructions and machinary.

4. Plastics.

- These are synthetic materials made from polymers
- They are moldable and attain varias shapes.
- They are poor conductors of heat and electricity.
- For example

Polyethylene used in plastic bags, bottles and container.

PVC (Polyvenyl chloride) used in pipes, cable insulation and flooring.

5. Ceramics.

These are inorganic non metallic solids made of clay that have been shaped and then hardened at high temperature.

For example bricks, plates and glasses.
They are insulator of electricity.

Q5. What is radioactivity? Differentiate b/w natural and artificial radioactivity.

Ans.

Radioactivity.

The phenomenon in which the nucleus of the atom of an element undergoes spontaneous and uncontrollable disintegration and emits α, β or gama rays

Natural radioactivity.

Natural radioactivity refers to the Spontaneous emission of radiation from naturally occuring radioactive materials.

e.g.

$$^{238}_{92}U \longrightarrow {}^{234}_{90}Th + {}^{4}_{2}He$$

$$^{226}_{88}Ra \longrightarrow {}^{222}_{86}Th + {}^{4}_{2}He$$

Artificial radioactivity.

It is the process in which a stable nucleus is changed into an unstable nucleus by bombarding it with appropriate atomic projects like α, neutrons, protons.

For example.

$$^{13}_{7}N \longrightarrow {}^{14}_{6}C + {}^{0}_{+1}e$$

$$^{12}_{6}C + {}^{4}_{2}He \longrightarrow {}^{16}_{8}O + {}^{1}_{1}H + \alpha \text{ rad.}$$

Polio.

Q What is polio.

Polio is an diseases caused by virus that maidly affects nerves in spinal cord or brain. in its most severe form polio can lead to a person being unable to move certain limbs called paralysis

Symptoms

Day
Date / /

① It damages nervous system and cause total paralysis in matter of hours.

Initial symptoms, fever, nausea, headache, fatigue, vomiting stiffness in neck and pain in the limbs.

polio mainly affect children under 5 years of age

Causes.

Polio is caused by virus called poliovirus. It infects your throat and intestine causing flu like symptoms. It is then spread to your brain & spine causing paralysis

How does polio spread.

① not washing hand after going to bathroom or changing diapers
② Drinking contaminated water or getting it in your mouth
③ Swimming in contaminated water
④ Touching " surface
⑤ Being in close contact with

Someone with polio.

Prevention

The best way to prevent polio is vaccinated. It usually done in childhood. If you did not get vaccinated as child than contact help provider.

Vaccines

Two types of vaccine

IPV (Inactivated " ") (Injecta

OPV (oral polio vaccine)

Children take IPV vaccine

(1) First 2 moths old.

(2) 2nd 4th month

(3) third 6 - 18 month's old

(4) 4th 4 - 6 years old.

Adult

(1) 2 dose one to two month apart

(2) 3rd dose 6 - 12 month.

(c)

Solid waste Management System.

refers to systematic management of generation, collection, transfer, treatment, recycling, recovering and disposal of solid wastes.

1. Waste generation.
2. Waste handling, and sorting, storage and processing at source
3. Collection → primary → secondary
4. Transfer & Transport
5. Disposal [Landfill] Treatment & disposal

Key Issues in solid waste management in Pakistan.

According to environment protection and climate change department Govt of Punjab

"Solid waste generation in pakistan ranges 0.283 to 0.612 kg/capita/day & waste growth generation is 2.4% per year.

Key issues are

Day:

(1) There is no proper waste collection system

(2) Waste is dumped in streets

(3) Different types of wastes are not collected separately

(4) no Controlled Sanitary landfill sites.

(5) People are not aware of relationship b/w ways of disposing waste & resulting Environmental & health problems.