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 acccording to what's asked is another. There are a few things I would like to highlight.

1. A 5 marks part requires 2 sides(not more than that) 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. :)

5-June-24   Wednesday

Mock I

General Knowledge-I

GSA

PART-II

(Section -II)

Question #01

Population

The population of a village increased from 18000 --------

Solution:-

Original population
Population further is increased in a

To find:

percentage Increase of population per year =?

Percentage increase = $\dfrac{\text{increase in population} \times 100}{\text{original population}}$

in population

$$= \frac{22{,}500 - 18000}{18000} \times 100\ \%$$

$$= \frac{4{,}500\ \%}{180} = \frac{450}{18}\ \%$$

$$= 25\ \%\ \text{per decade}$$

Hence

Percentage increase in the population of village is **0.25%** in a year

$= 0.25\%$

Part b:

A soap factory makes 600 units in 9 days with------

Solution

Data #1

600 units of soap were made in 9 days with the help of 20 machines

Data #2

18 machine will made soap in 12 days
To find the units of soap

Let units of soap are x.

Units of soap	No. of days	No. of machines
600	9	20
x	12	18

$$\frac{x}{600} = \frac{\cancel{12}^{\ \cancel{x}}}{\cancel{9}} \times \frac{\cancel{18}}{\cancel{20}_{10}}$$

$$\frac{x}{6}$$

$$\frac{x}{600} = \frac{12}{10}$$

$$x = \frac{12 \times 600}{10}$$

$$\therefore x = 720 \text{ units}$$

As x present units of soap

$\therefore$ soap = 720 units

720 units of soap can be made in 12 days with the help of 18 machines.

PART : C

A car covers a distance of 450m in 1 minute - - - - -

Solution:

For car

$$\underline{\text{Distance}} = 450m$$
$$\text{Time} = 1 \min = 60 \text{ sec}$$

For Train
$$\text{Distance} = 69 \text{ km}$$
$$= 69 \times 1000 m$$
$$= 69000 m$$

Time = 45 min = 45×60 sec = 2700 sec

$$\therefore \boxed{\text{Speed} = \frac{\text{distance}}{\text{time}}}$$

speed of car = $\dfrac{450 \text{ mtr}}{60 \text{ sec}}$

$= 7 \cdot 5 \text{ m/s}$

speed of train = $\dfrac{69000 \text{ m}}{2700 \text{ sec}}$

$= \dfrac{230}{9}$ m/s

$= 25 \cdot 5 \text{ m/s}$

speed of car : speed of train = $7 \cdot 5 : 25 \cdot 5$

PART: D

Find perimeter of a pentagon with each side equal to 15cm

Solution:
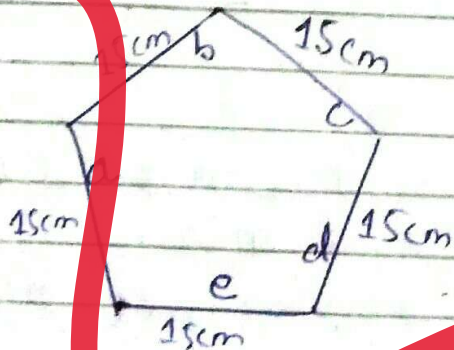
Perimeter of pentagon = sum of all sides of pentagon

$= a + b + c + d + e$

$= 15 + 15 + 15 + 15 + 15$

$= 75 \text{ cm}$

$\Rightarrow$ Perimeter of given pentagon is 75 cm

Question # 2

Part a:

What is IQ? What are factors which affec IQ?

Answer

Abberiviation:

IQ : Intelligence quotient

Definition:

IQ refers to a persons intelligence. It is a persons ability to think effectively. It's m level varies from person to person, which depends on some factors.

Factors affecting IQ

— Environment
Good enviroment have positive effects on IQ leading to the high intelligence quotient

— Parenting
During a person's childhood, how his parents treat him have a deep effect on his IQ

—. **Educational background:**
A good educational background leads to the high intelligence level.

—. **Problem Solving Task.**
A person will have high IQ level who solve more problems when compared with a person with low 'less' problem solving.

—. **Health**
Good mental and physical health helps in the high IQ level of a person.

Part b.

What is the circumference of a circle with radius 4cm?

Solution:-

Circumference of a circle $= 2\pi r$

where,

$r = $ radius of circle

Here $r = 4cm$

Circumference of the given circle $= 2\pi r$

$= 2\pi (4)$

$$= 8\pi$$
$$= 8\left(\frac{22}{7}\right)$$
$$= \frac{176}{7}$$
$$= 25.14\,cm$$

Circumference of given circle is **25.14cm**

Part C:

Ages of 5 students is 20, 22, 21, 21, 23,. Find mean, median, mode and range.

Solution:

$\Rightarrow$ $\underline{Mean} = \dfrac{\text{Sum of observations}}{\text{Total no. of observations}}$

$$= \frac{20+22+21+21+23}{5}$$

$$= \frac{107}{5}$$

$$= 21.4$$

Mean = 21.4

$\Rightarrow$ Median

Arrange the ages in ascending order.

20, 21, 21, 22, 23,

Middle observation is 21
which is median
$$\text{Median} = 21$$

⇒ Mode: the most repeated value.
In the given data

Age	students
20	1
21	2
22	1
23	1

$$\text{Mode} = 21$$

⇒ Range = maximum age − minimum age
$$= 23 - 20$$
$$= 3$$
$$\text{Range} = 3$$

Part: d

Tahir started a business with a capital of - --- -

Solution:

Tahir's share	:	Umar's share	:	Osman's share	
15000×12	:	$30,000 \times 07$	:	$45,000 \times 04$	$(÷1000)$
15×12	:	30×07	:	45×04	$(÷5)$
3×12	:	6×07	:	9×04	$(÷3)$
12	:	2×07	:	3×04	
12	:	$12\ 14$	:	$12\ x$	
6	:	7	:	6	

Tahir's share = $6x$

Umar's share = $7x$

Usman's share = $6x$

Total profit = 406,000

$$6x + 7x + 6x = 406,000$$
$$19x = 406,000$$
$$x = \frac{406,000}{19}$$
$$x = 21368.42$$

Tahir's share = $6x = 6(21368.42) = 128210.52$

Umar's share = $7x = 7(21368.42) = 149578.94$

Usman's share = $6x = 6(21368.42) = 128210.52$

SECTION-I

Question #01

Part a:

Enlist the available sources of renewable energy in Pakistan and suggest policy options to utilize these sources to overcome the present energy crisis

Answer:-

Renewable energy:

Energy collected from naturally replenished resources on a human timescale such as wind, tides etc

Renewable Energy Sources:

—• Wind Power

—• Hydropower

—• Solar Energy

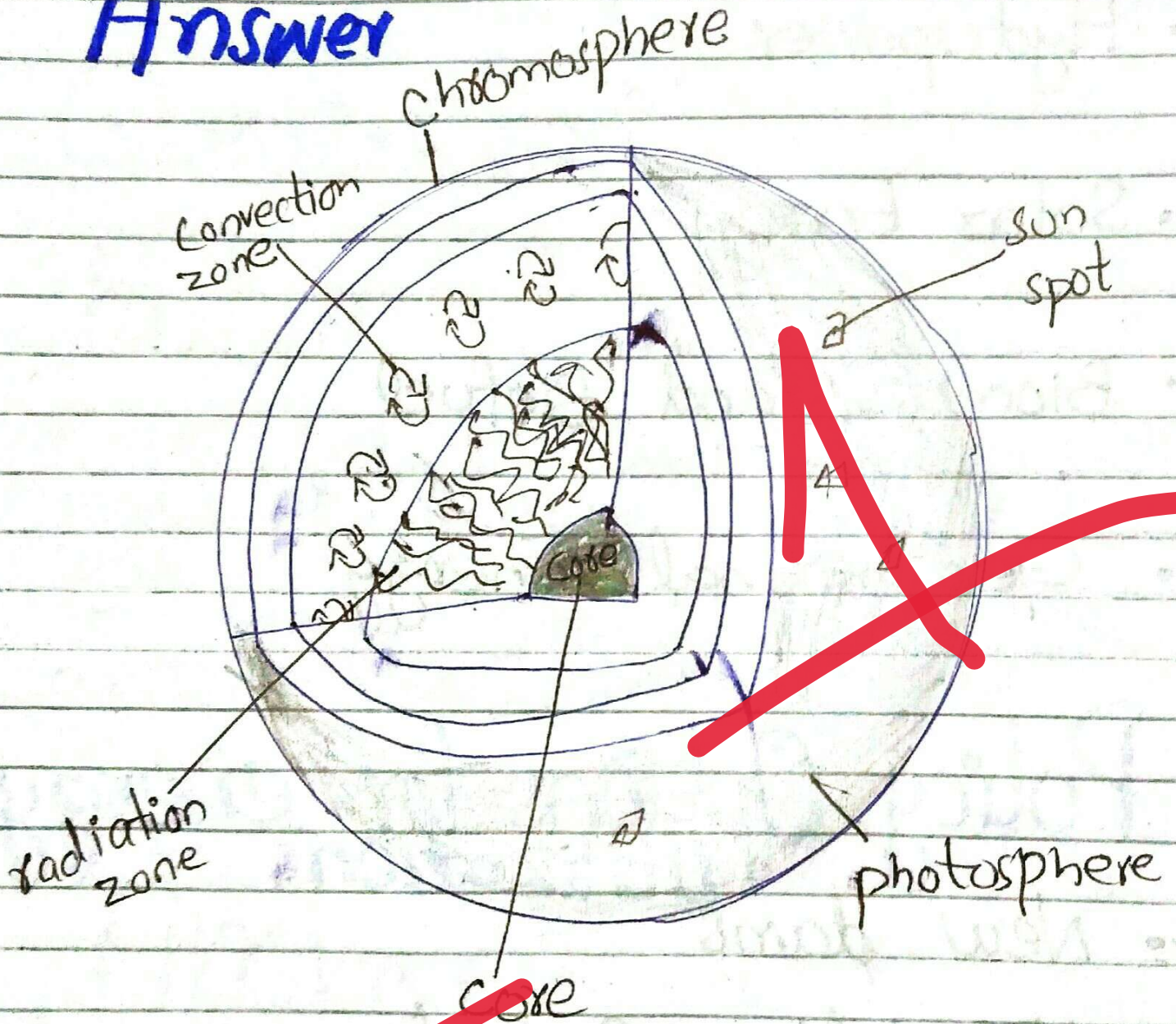—• Biomass and Biofuel

—• Geothermal Energy

Policy Options for energy utilization.

—• New dams

—• Population Control

—• Politician's Consensus

—• Government Far-sightedness

—• Active media

—• Proper use of natural resources and modern technology

Part b.

Explain Structure of sun

Answer

Labels in diagram: Chromosphere, Convection zone, sun spot, radiation zone, Core, core, photosphere

Part C

What is ceramic material? Is it possible that ceramics can be recycled?

⇒ Ceramic:

It is an inorganic metallic and non-metallic solid made up of clay that have been shaped and hardened by heating to high temperature

Examples

It can be found in space shuttle watches, airplanes (nose cones) etc
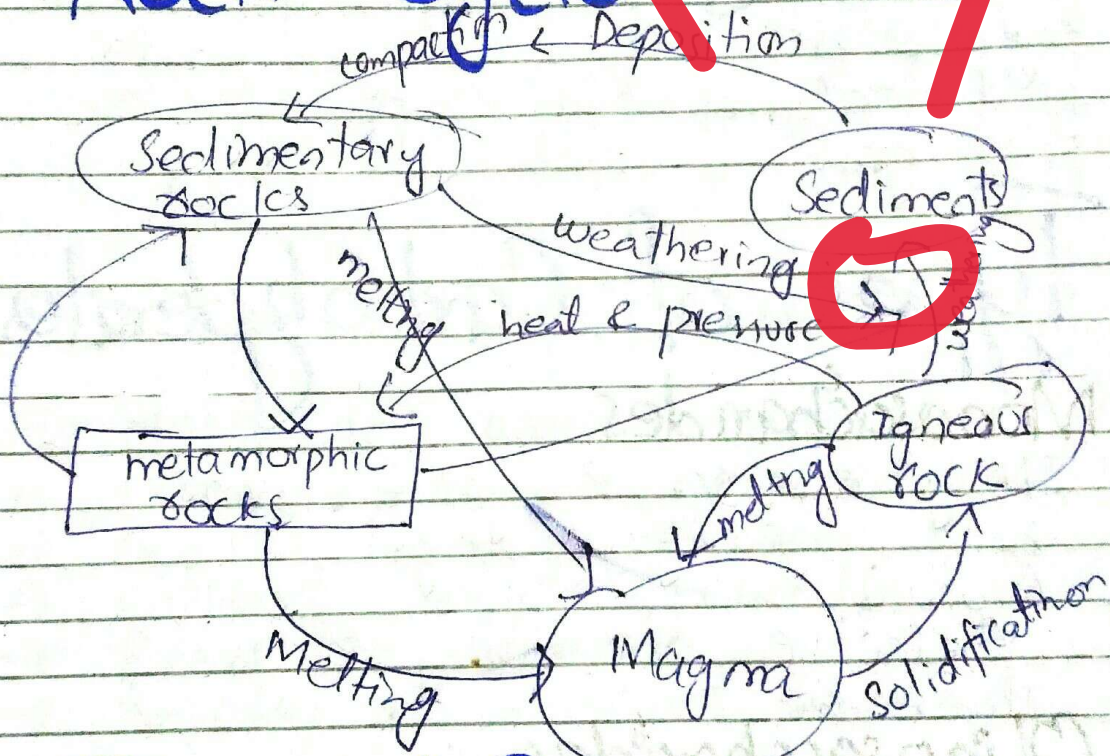
⇒

Ceramics can be recycled.

Part d:
Ear's Structure

outer ear

cochlea

Auditory nerve

Ear canal

Ear drum

Pinna

Eustachian tube
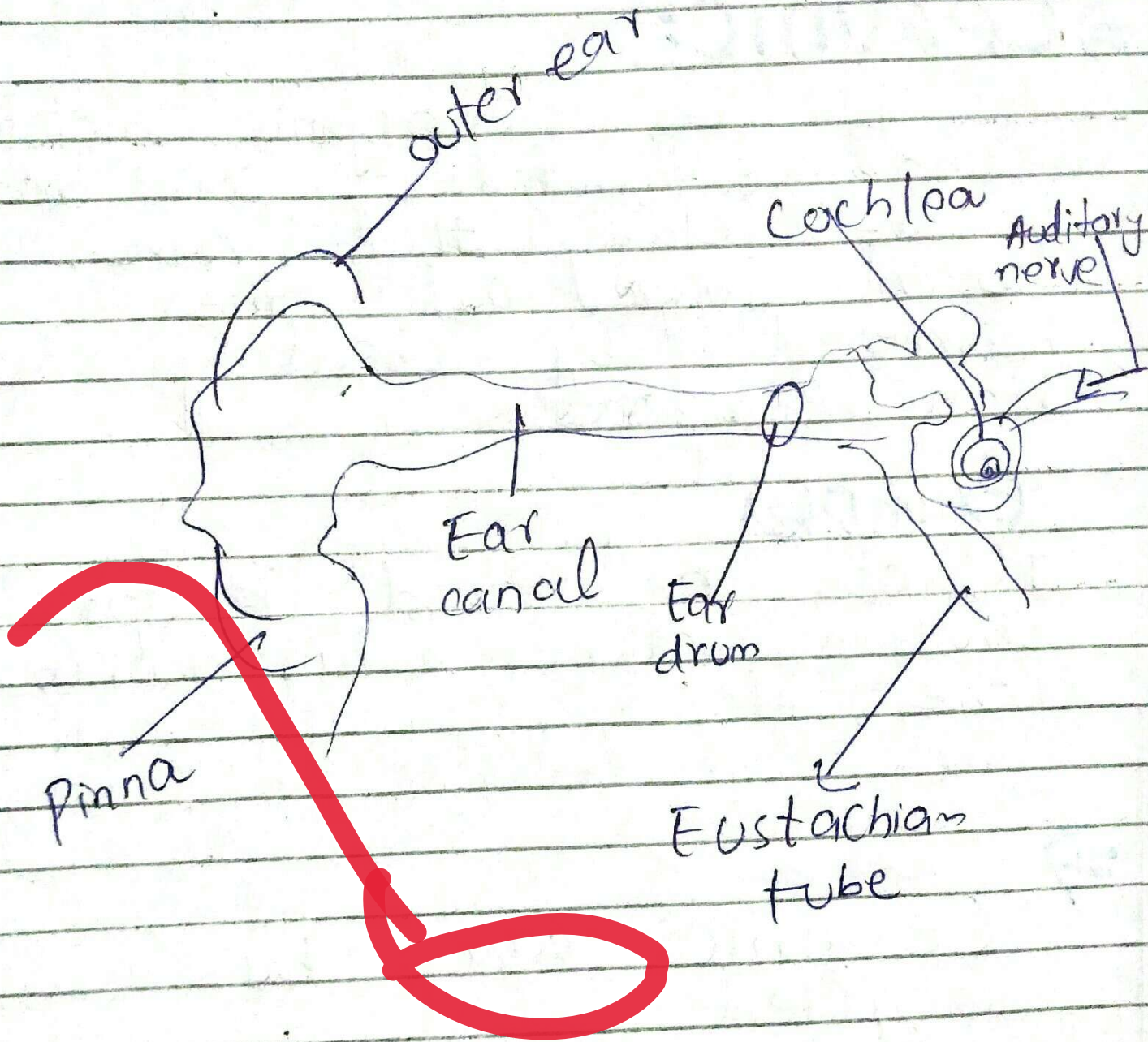
Question #2
Part a

Define rocks formation, rock cycle and different types of rocks.

Answer

Rock Cycle

compaction ← Deposition

Sedimentary rocks

Sediments

weathering

melting   heat & pressure

metamorphic rocks

Igneous rock

melting

Melting

Magma

solidification

Types of Rocks

1- Igneous

2- Sedimentary

3- Metamorphic

Part c:
Explain Carbohyderates and its types.

Answer:

Carbohyderates:
They are the human body's key source of energy provide 3.9 calories of energy per gram

Types of Carbohyderates

Monosaccharides
They are simple sugar & cannot be hydrolyzed. e.g.
- Glucose
- Galactose
- Fractose

Oligosaccharides
They are compound sugar that yields 2 to 10 molecules. e.g.
- Sucrose
- Lactose
- Maltose

Polysaccharides
They are compound sugar and yield more than 10 molecules
e.g. starch, cellulose

Part d:

What are the benefits of balance diet?

Answer

Balance Diet

· A diet that contains adequate amount of all the necessary netrients required for healthy growth and activity.

Benefits of Balance Diet

→ Helps in weight control
→ keeps a body energized
→ Boosts immune system
→ support heart health
→ Prevents illnesses
→ Provides all important nutrients