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 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 got 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. :)

Handwritten student answer (blue):

Mock Exam Css-2025
June 05 (2024)
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Batch # 59 (online)

General Science & Ability

Section I

Q2:a Global warming, which is hitting the developing and least developed world the most. What measures should be taken to Counter it in COP-29?

To Counter global warming in COP-29, measures would include:

1- Reduce greenhouse gas emissions: focused to decrease emissions from fossil fuel and Industry.

2- Transitioning to renewable energy sources: Invest in Solar, wind, and geothermal energy to reduce fossil fuels.

3- Increasing renewable energy technologies and Precision or Net zero buildings, transportation, and Industry.

4- Electrifying transportation: promote electric vehicles and public transport use.

5. Carbon Capture and Storage :
    Develop technologies to capture and store CO2 emissions from power plants and industrial processes.

6. Protecting and reforestation :
    Preserve and restore forests to maintain their carbon sequestration capabilities.

7. Climate change adapation and resilience :
    Support vulnerable communities in development adapation strategies and building resilience.

B. Here are the functions of arteries, veins, and capillaries :

1- Arteries :
    - Carry oxygenated blood away from the heart to the rest of the body
    - Have thick walls to withstand high pressure.
    - Divide into smaller arterioles and heart.

2. Veins :
    - Carry deoxygenated blood back to the heart.
    - Have thinner walls and less pressure than arteries.
    - Merge into larger venules and eventually the superior and inferior vena cave.

3- Capillaries :
    - Allow for exchange of oxygen and nutrients with cells.

Add diagrams

- Have thin walls and are highly permeable
- Form a network that enables gas and nutrient exchange.

C- What do atoms 'from' chemical bonds? Explain Structure of Water? (   )

Atoms form chemical bonds to gain Stability and Valence electrons. Water (H_2O) has a bent Shapes due to unequal Sharing of electrons, resulting in Polar Covalent bonds.

1- Atomic Stability:
Atomic Seek a full Outer energy level, which is achieved by sharing or exchanging electrons.

2- Chemical bonds:
Formed when atoms Share or exchange electrons to achieve Stability.

3- Water Structure:
Oxygen Share electrons unequally with hydrogen atoms, Resulting in a Slightly Positive charge on hydrogen and a Slightly negative charge on oxygen.
This Polarity gives water its unique Properties and biological importance.

D- what are conductors, Semiconductors, metals, Plactics, and Ceramics? Give an example of each.

Here are examples of each:

- Conductors:

Copper; Highly efficient Conductor, widely used in electronics and electrical wiring.

Characteristics: High Conductivity, malleability, and ductility.

Semiconductors:

Silicon: Used in electronics and computer chips, intermediate Conductivity

Characteristics: Can control Conductivity, Used in transistors and Solar cells.

Metals:

Aluminum: Good Conductors, malleable, and widely used in aircraft and packaging

Charactistics: High Conductivity, strength, and Corrosion ressistance.

Plastics:

Polyethyleme: Insulator, flexible, and widely used in packaging and plastics bags.

Charactistics: Low Conductivity, lightweight, and resistant to Corrosion.

Q5,A: What is artificail intelligence and is it possible for artificial intelligence to outsmart humans?

Ans: Artificial intelligence (AI) refers to the development of computer systems that can perform tasks that typically

require human intelligence, such as learning, problem-solving, and decision-making. Whether AI can outsmart humans is a topic of ongoing debate. While AI has made tremendous progress in recent years, it still has limitations and is not yet capable of surpassing human intelligence in many areas.

Types of AI :
Narrow or Weak AI (e.g. Siri, AlphaGo)
General or Strong AI (hypothetical, human-level intelligence)

AI applications :
Machine learning
Natural language Processing
Computer Vision
Robotic
Expert Systems

B- Define rocks formation, rock cycle and different types of rocks?
- Rocks formation :-
Rock are fromed through geological processes, including cooling and solidification of magma or lava, cementation of sediments, and metamorphism of existing rocks.
- Rock Cycle :-
The rock cycle describes the continous process of rock formation, transformation and destruction. It involves the

the three main types of rocks igneous, Sedimentary, and metamorphic.

Types of rock :-

1- Igneous rock
2- Sedimentary rock
3- Metamorphic rock

C. Explain Carbohydrates and its types?

Ans: Carbohydrates are biomolecules that Serve as energy Sources for Cells. The main types of Carbohydrates are :

Types :

1- monosaccharides : (Simple Sugars) Example include glucose, fructose, and galactose

2- Disaccharides : Fromed by liking two monosaccharides, examples include soucross (table Sugar) and lactose (milk Sugar)

3- Polysaccharides : (complex Carbohydrates) Examples include Cellulose, starch and glycogen.

D. what are the benefits of balance diet?

Balanced diet benefits :

1- optimal nutrition
 - Essential nutrients
  - Vitamins
  - Minerals

2- Energy and Performance:
- Physical energy
- Mental Performance
-

3- Weight management:
- Healthy weight
- Body Composition

4. Disease prevention:
- Chronic disease
- Injections

5- Improved mental health:
- Mood regulation
- Congnitive function

6- Healthy digestion:
- Regular bowel movements
- Prevents Constipation
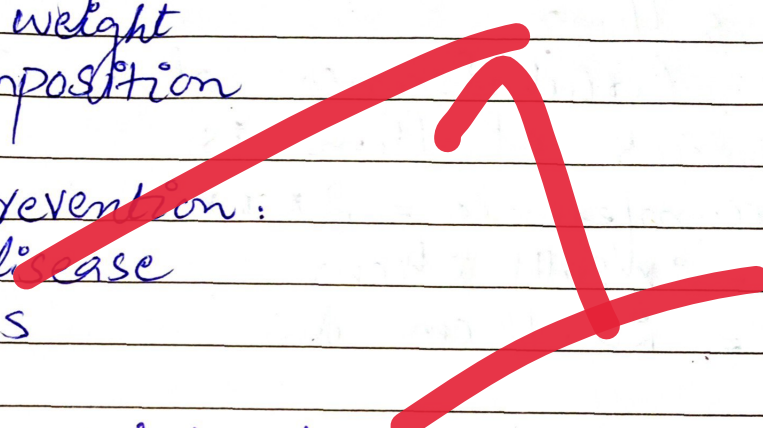
Q7:A Define I.Q what are factors which affects I.Q?

Ans: I.Q (intelligence Quotien) is a Score derived from one or more standardized tests designed to asses human intelligence. Factors that affect I.Q include:

1- Genetic
2- Environment
3- Nutrition
4- Education
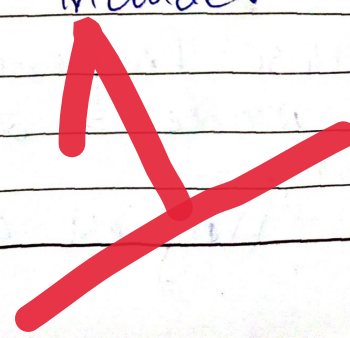
5- Socioeconomic Status
6- Health
7- Culture

B. what is Circumference of a circle with radius 4cm?

The Circumference of a circle with a radius of 4cm is

Circumference = $2 \times \pi \times$ radius

$= 2 \times 3.14 \times 4cm$

$= 25.12 \, cm$ Ans

C- Age of 5-student is 20, 22, 21, 21, 23. Find mean, median, mode and range?

For the ages of the 5 students:

mean :-

Sum of ages = $20 + 22 + 21 + 21 + 23 = 107$

mean = Sum of age / Number of Students

$= 107/5$ 107 ÷ 5

$= 21.4$

Median :-

Arrange ages in order: 20, 21, 21, 22, 23

Median = middle value

$= 21$

Mode :-

Most frequent age : 21 (appears twice)

mode = 21

Range :-

Highest age - lowest age

$$= 23 - 20$$
$$= 3$$

D. Tahir started a business with a Capital of Rs. 15,000. After 5 months Umar also joined him with an investment of Rs. 30,000. At the start of 9ᵗʰ month, Usman joined them by investing Rs. 45,000. At the end of the year they earned a profit of Rs. 406,000. Find the share of each one?

Ans: To find the Share of each person in the profit:

Total investment = Tahir's investment + Umar's investment + Usman's investment =
= 15,000 + 30,000 + 45,000
= 90,000

Profit Sharing ratio = investment ratio
Tahir : Usman : Usman = 15,000 : 30,000 : 45,000
= 1 : 2 : 3

Total profit = Rs 406,000
Tahir's Share = (1/6) × 406,000
= 67,667 Rs.
Umar's Share = (1/6) × 406,000
= Rs. 135,333
Usman's Share = (3/6) × 406,000
= Rs. 203,000

Q6:A The tatal population of a village increased from 18,000 to 22,500 in a decade. What is the percentage increase of population per year of that village?

Ans: Population increase = 22,500 - 18,000

$= 4,500$

Percentage increase = $(4,500/18,000) \times 100\%$

$= 25\%$

Percentage increase per year = $25\% \div 10$ Years

$= 2.5\%$ per year

B. A Soap factory makes 600 units in 9 days with the help of 20 machines. How many units can be made in 12 day with the help of 18 machines?

Units made in 9 days = 600

Units made per day = $600 \div 9 = 66.67$ Units/day

Units made by 18 machines in 1 day = 3.33 × 18 = 60 units/day

Units made in 12 days = 60 × 12 = 720 units.

C. A Car covers a distan of 450m in 1 minute whereas train covers 69km in 45 mins. Find the ration of their speeds?

Car's Speed = 450m/1min = 450m/min

Train's Speed = 69km/45mins = 1.533 km/min

Ratio of Speeds = Car's Speed : Trains

Speed
= 450 m/min : 1.533 km/min
= 450 m/min : 1533 m/min (convert km to m)
= 1 : 34 Ans

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

Ans. perimeter of a pentagon = 5 × side lenght
= 5 × 15cm
= 75cm Ans