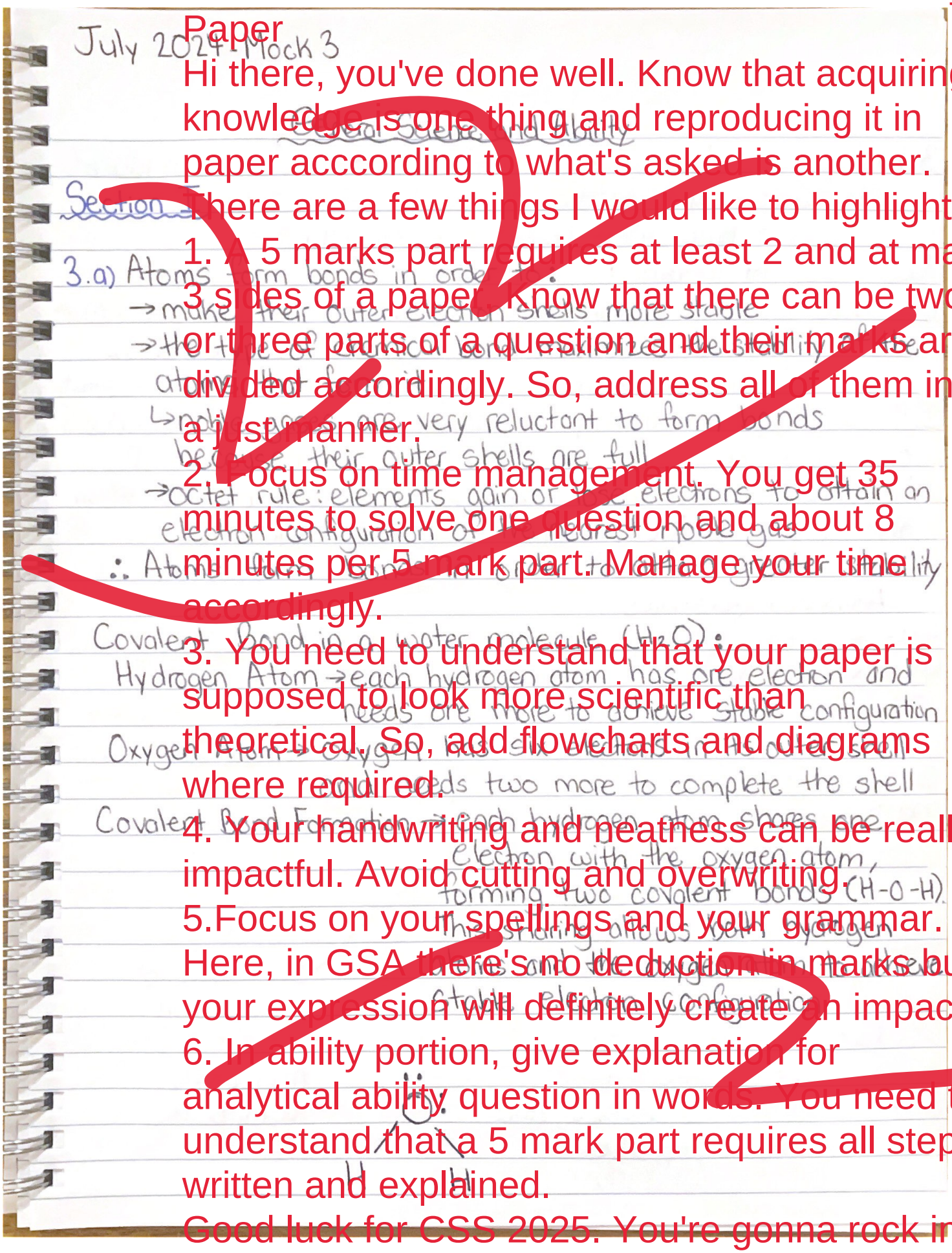


Dos and Don'ts for Generaral Science & Ability Paper

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 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.

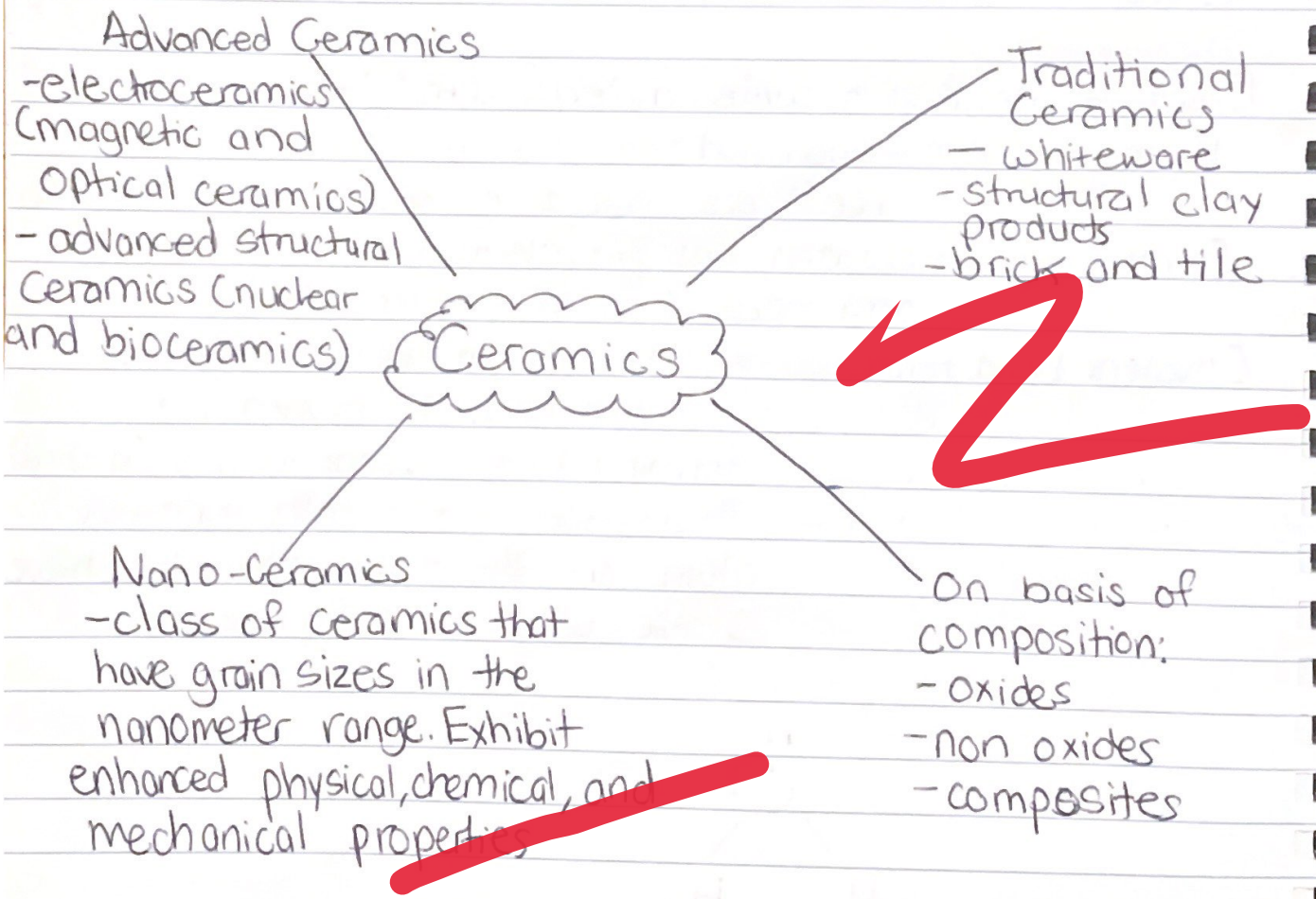
Good luck for CSS 2025. You're gonna rock in sha Allah. :)

3. b) Doping = a key process in the function of semiconductors.
↳ introducing impurities to create n-type (more electrons) and p-type (more holes) in semiconductors.

Two Types of Doping:

1) N-Type Doping = adding a small amount of impurity with more valence electrons introduces free electrons. These electrons can move and carry electric current, enhancing the conductivity

2) P-Type Doping = adding an impurity with fewer valence electrons, creates "holes" in the crystal structure. These holes can move as neighbouring electrons jump into them, also allowing the material to conduct electricity



3.c) Demerits of Global Warming:
→ increased frequency and intensity of heatwaves can compromise human health (lead to illness or death)
→ changes in temperature, precipitation, and increased CO_2 levels can affect crop productivity, and food security
→ water availability → some regions are experiencing droughts
→ ecosystems and bidiversity → habitat loss; species are forced to migrate

Merits of Global Warming:
→ areas with freezing temperatures (Antarctica) become more habitable

3.d) Polio = highly infectious disease (viral) which mainly affects young children
→ there are 3 strains of poliovirus, none can survive outside of human body for a long time
→ Symptoms = invades nervous system, fever, fatigue, headache vomiting, can cause total paralysis in hours
→ Causes = spreads in human feces, contaminated water + food
→ Prevention = there is no cure, can only be prevented
→ Vaccine = inactived polio vaccine (IPV) and oral polio vaccine children should be vaccinated starting at 2 month

Challenges in eradication of polio in Pakistan:
→ sanitation and hygiene are poor
→ improper sewage disposal in rural areas
→ lack of education amongst new mothers

4.a) Bile = chemical substance that breaks down fats and makes them more digestible
→ produced by the liver
→ aids in digestion of proteins, fats, and carbohydrates
→ emulsifies fats, making them easier to digest
→ stored and concentrated in gallbladder. Gallbladder releases bile into small intestine to aid in fat digestion

4.b) Function of kidneys:
→ regulates blood pressure and the level of vital salts in blood
→ nephrons filter, reabsorb, and secrete glutamate, carbs, and solutes
→ Loop of Henle concentrates the salts which are added to the urine to aid in excretion

4.c) Methods of Solid Waste Management:
1) Generation → waste is produced and begins to increase in volume
2) Collection → waste is picked up from the location (e.g. municipal, industrial, biomedical, agricultural)
3) Transfer → system is designed to carry waste towards collect facility
4) Treatment → waste is managed using a variety of methods such as incineration, recycling, landfill (buried underground), transferred across sites

4.d)

i) Anaemia = condition of having low iron in the blood

ii) Appendicitis = condition in which appendix becomes inflamed, requires removal of appendix

iii) Spleen = site of concentration for lymphocytes

iv) Myopia = condition of nearsightedness (person can only see when going near), corrected by concave lens

Section II

6.a) A : B : C : D

↓

4 : 7 : 3 : 1

Difference between A and C : 1

Let increment of 1 = 50 blocks

∴ A = 4 × 50 = 200 blocks

B = 7 × 50 = 350 blocks

C = 3 × 50 = 150 blocks

D = 1 × 50 = 50 blocks

∴ B has 350 blocks

6.b) Original cost = $80

15% discount = 0.15 × 80 → 15 (×8) $120

→ 15 × 8 = $200

→ 0.15 × 80 = 12

Price is now 80 − 12 = $68

10% sale tax = 0.1 × 68 = 6.8

Final price = 68 + 6.8 = $74.80

6.c) Travels 36 km/h

First Hour → travels 36 km (6 km left) = 5 pm

Second Hour → travels 6 km (1/6 of the hour)

= 10 min

∴ Train arrives at 5:10 pm

6.d) i) Superintend ii) white

7.b) Average age = 15 years

Sum of ages = 15 × 3 = 45

3 : 5 : 7

↓ ×3

9 : 15 : 21

∴ Age of youngest boy is 9 years old

c) i) 8, 19, 52, 151, 447

×3 −5 ×3 −5 ×3 −5 ×3 −5

→ next number = (448 × 3) − 5 = 1339

∴ 447 is the wrong number because its supposed to be 448

ii) 11, 13, 17, 19, 23, = 25

×1 +2 ×1 +4 ×1 ×1 ×2