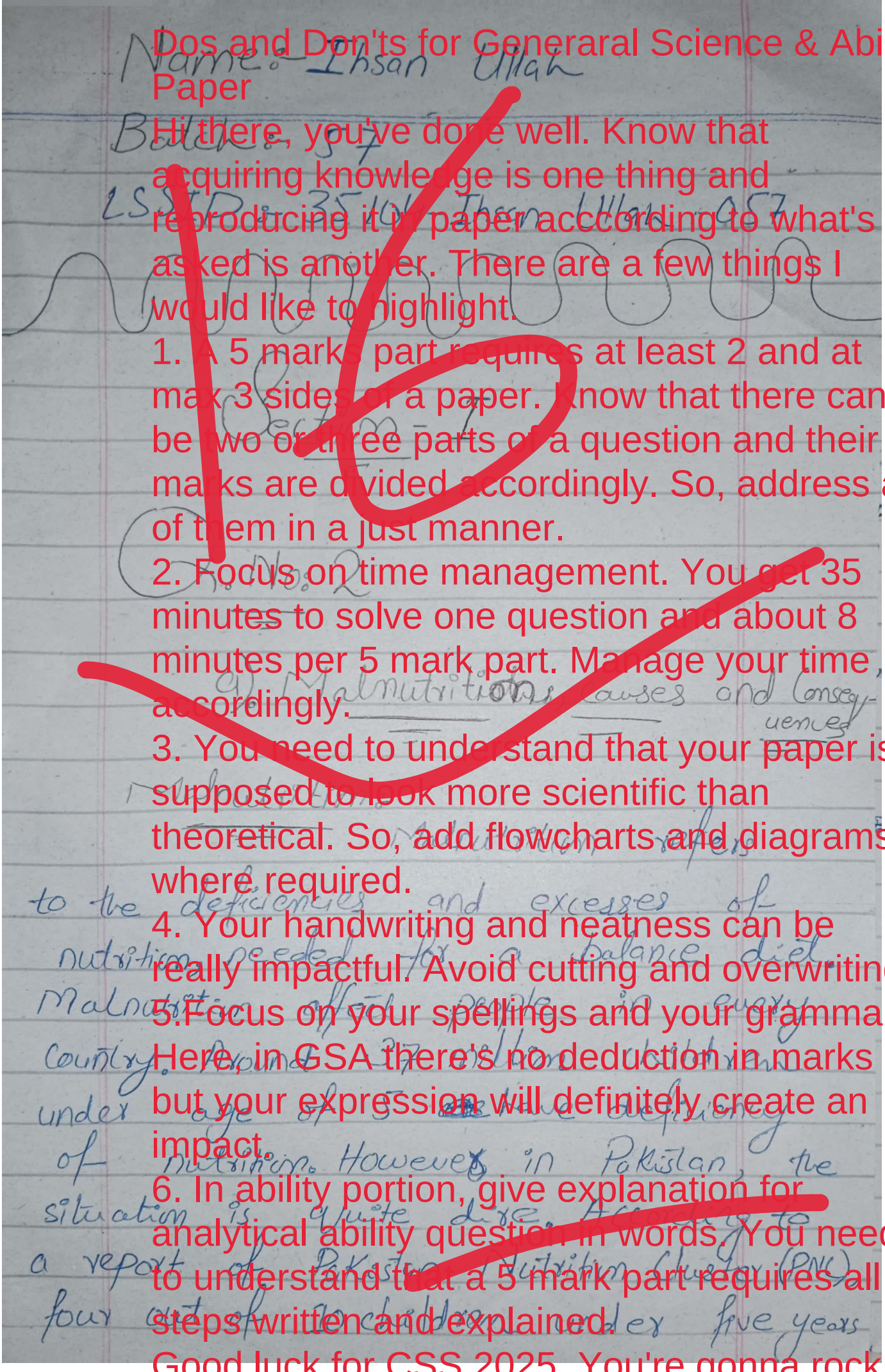

Dos and Don'ts for Generaral Science & Ability Paper

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. :)

of age are stunted, while 17.7% suffer from wasting in Pakistan. Therefore, malnutrition is a major health problem that need to addressed in order to control different type of diseases.

Major Causes of Malnutrition

i). Insufficient Food Intake:-

There are several causes of malnutrition. One of the leading cause is the insufficient food intake. When someone don't have enough to eat, he or she faces the problem of malnutrition. This condition is severe among poor or vulnerable populations, such as children, pregnant women, and elders who need more nutrients for proper growth development and health. For instance, For the 2022 floods plunged an

additional 2.5 million people in Pakistan into extreme hunger, food shortag or insufficient food intake conditions.

(ii). Poverty:-

Likewise, poverty is also a major cause of excess malnutritio When families dond have enough income to purchase sufficient and nutritional food, resultantly, faces problem of malnutrition. For instance, poverty-stricken Sub-Saharan Africans, do not have access to nutritional food. They heavily rely upon foods like maize or cassava, which are calorie dense but lack essential nutrients. In short, poverty also leads to malnutrition.

(iii). Medical Conditions and Digestive Disorders:-

Similarly, Malnutrition also occur due to medical conditions and digestive disorders. Medical

Such as diarrhea or cancer can cause wasting of nutrition, leading to malnutrition. In the same way, digestive disorders such as Irritable Bowel Syndromes (IBS) or ulcerative problem can also cause loss of sufficient nutrition from the body.

iv). Lack of Education:

= Finally, lack of education and awareness about a balance diet, can also cause malnutrition. For example, in rural areas, people do not know about nutritional foods needed for a balance diet.

Consequences of Malnutrition:

i). Stunted Growth:-

First of all, malnutrition can lead toward stunted growth. This type of disease are often uncurable, which results to weaker bones and muscles. One of the glaring example is the stunting growth of children under age of five years.

(ii). Weak Immune System:

Another major consequence of malnutrition is weak immune system. Weak immune system makes the body vulnerable to infections and severe diseases. For instance, a lack of essential vitamins and minerals often results in malnutrition.

(iii). Increased Mortality:

Similarly, Malnutrition also lead to an increased in mortality rates. Severe Malnutrition conditions such as Marasmus often lead to life-threatening condition.

(iv). Impairement of Brain:

Finally, impairement of brain can also result from malnutrition. Whenever, children in the early ages face problem of malnutrition, it often leads to learning difficulties, poor performance and cognitive delays.

(b):

Differentiate b/w Food Contamination and Adultration.

Food Contamination

Food contimination refers to the unintended presence of contiminated or harmful molecials in the food. These harmful substances or material can be bacteria, viruses, heavy metals etc. However, presence of such pathogenic things can often lead to different types of disease. For instance, diarrea, sickness, food poison etc.

Food Adultration

However, Food adultration is an intentional act of reducing the quality of food by adding inferior or harmful substance. Food is adultrated

given there is increase in demand or greed of increased profit. For instance adding water in milk.

Difference b/w these two:-

i) ~~Contimination~~ Contimination is unintentional and often unintended, while food adultration is a deliberate, with the aim of making profit.

ii) Contimination occurs due to improper handling & environmental factors, but food adultration occurs by adding harmful or inferior substances.

iii) Contimination can cause short-term illnesses and infections, while food adultration can often lead to chronic diseases.

iv) Contimination can be handled by taking proper measures, while food adultration requires strict vigilancy by the food authorities.

(c)

What are Computer Buses?

Computer buses are communication tools used to transfer data between different components of the same device, such as the CPU, memory and pheripheral devices.

Types of Computer Buses

i) Data Bus:

Data bus used to transfer binary data between Central Processing Unit (CPU), memory and other hardware components.

ii) Address Bus:

Address bus tells the system where to find or store the data. However, it also carries addresses or information from the memory to other locations of computer.

(iii). Control Bus:-

Control bus carries controlled signals that control the actions of various components of the computer.

Difference b/w RAM and ROM

ROM:- (Read Only Memory)

It is a type of non-volitile memory that is used to store data permanently. As the name suggest it is designed for reading data only.

Read Access Memory (RAM)

It is a type of volatile memory used to store data temporarily. RAM directly access any memory cell.

Difference b/w these two

i) ROM is a non-volatile memory while RAM is a volatile memory.

ii) ROM stores data permanently, while RAM store it for a temporary time period.

iii) ROM is designed to read data only, but RAM can read and write the data.

iv) RAM is the fastest type of memory, while ROM is not a fast type of memory.

v) Data in ROM cannot be modified, while it can be modified in RAM.

(d)

Geostationary Satellites.

Geostationary satellites are high earth orbit satellites, which are useful for communications. These satellites can only be achieved at an altitude of 35786 km from the surface of earth.

Distinguish Between Artificial and Natural Satellites.

Artificial Satellites.

Artificial Satellites are man-made satellites, which are orbiting around the Earth. For example, GPS satellites, International Space Station (ISS) etc, are artificial satellites.

Natural Satellites.

Natural Satellites are nature-made satellite which orbit around

For instance, Earth is the natural satellite of Sun, while moon is the natural satellite of Earth.

Artificial Satellites of Jupiter

Jupiters have no artificial satellites. However, Jupiters have natural satellites. According to NASA, there are around 95 moons of the Jupiter.

Q. No: 5

(a)

Radioactivity and its Types:

Radioactivity is the process by which unstable atomic nuclei loss energy by emitting radiations. ~~Further to ... it is an ... of ...~~ It was discovered by French physicist Henri Becquerel in 1896. However, it also should be noted that radioactivity can occur in artificial as well as in natural ways.

i) Differentiate b/w Natural and Artificial Radioactivity:

i) Artificial Radioactivity:

Artifical radioactivity occur by bombarding

the nuclei of a stable element with a neutron. An example of an artificially induced radioactivity is neutron activation. A neutron fired into a nucleus can cause nuclear fission.

~~i) Artificial Radio activity~~

ii). Natural Radio activity

Natural Radioactivity is the spontaneous emission of radiation by naturally occuring isotopes found in nature. For example, radio activity found in Uranium, Thorium ores and natural fuels.

(b)

What is Polio?

Polio, also known as Poliomyelitis, is a kind of a infectious disease which usually occurs in children. The countries with most of polio cases are Pakistan and Afghanistan. Around 14 cases of polio have been detected in Pakistan in the year 2024, according to Pakistan Polio Eradication Program. However, 9 polio cases have been found in Afganistan so far in 2024.

Symptoms of Polio:

Initial symptoms of polio are high fever, fatigue, headache, vomiting, and stiffness in neck. However, later symptoms are severe, which often leads to incessant paralysis.

Causes of Spread of Polio

Polio used to spread by coming in contact with a person who is infected by the virus. However, mainly it spred from contaminated water and unhygenic food. Polio virus enter in the body through mouth, and reaches intestine by passing through the digestive tract.

Prevention and Vaccine of Polio

The only cure to polio is the immunization with vaccine. Vaccine works best to prevent the spread of Polio virus. The most important and effective polio vaccines are Inactivated Polio Vaccine(IPV) and Oral Polio Vaccine(OPV). IPV is injected in the body, while OPV is taken by mouth or orally.

2

(c)

Steps involved in Solid Waste Management:

The following steps are involved in SWM:

i). **Generation of Waste:** The 1st step is the generation of waste when materials are considered of no value.

ii). **Waste Handling:** The 2nd step involves the handling, sorting, storing, and process of waste.

iii). **Collection:** Collection includes the gathering of the waste handled.

iv). **Transfer and Transport:** After collecting

Add flowcharts

of the waste, then the concerned party has to transfer the waste to a secondary collection point, and after that transportation of the waste occurs over a long distance to a disposal area.

v). Disposal of Waste :-

The last step is the disposal of waste.

(d) :-

Population Planning :-

Population planning is method of improving the lives of people, including children, families and communities. Population of the world is increasing day-by-day. According to the United Nations, world population has reached 8 billion in 2022.

However, the Population of Pakistan is 241.49 million with an annual growth rate of 2.55%.

Benefits of Population Planning

There are several benefits of Population planning.

1). Reduce Infant Mortality :- Firstly, Population planning can help to reduce infant child mortality. Infant mortalities contributes to the highest mortalities occur in the world. Around 55 deaths per 1000 live birth occured in Pakistan in the year 2023. Therefore effective family planning can reduce child mortality rate.

ii). Prevent HIV/AIDs &

Secondly, Population planning effectively reduce the cases of HIV and AIDs. It reduces the chances of sexually emitted diseases. For instance, condoms provide dual protection against pregnancies and transmission of sexually emitted diseases.

Avoid cutting

iii). Educational Enhancement &

Thirdly, Population planning can provide a chance to the families to enhance their education. For instance, women can pursue their education even after marriage.

iv). Stagnent Population Growth &

Lastly, family planning can lead to a lower population growth. As unproductive growth in population have threatening consequences for the economic stability of a country.

Q. No: 6

(a)

1120
850
270

∴ initial enrollment = 850

∴ later enrollment = 1120

∴ Change = later enr − initial enrolment

Change = 1120 − 850

Change = 270

Percentage increase = Change / Initial enrolment

= 270/850 = 31.76%

Percentage increase = 31.76% Ans

(b)

Sol:

x = Son's age

5x = father or man age

x − 2 ⇒ Son's age 2 year ago

5x − 2 ⇒ father age 2 years ago

$$(x-2)^2 + (5x-2)^2 = 114$$

$$\therefore \left[x^2 + 2^2 - 2(x)(2)\right] + (5x)^2 + (2)^2 - (2)(5x) = 114$$

$$\left[x^2 - 4x + 4\right] + \left[25x^2 - 20x + 4\right] = 114$$

$$\therefore x^2 + 25x^2 - 4x - 20x + 4 + 4 = 114$$

$$\therefore 26x^2 - 24x + 8 = 114$$

$$26x^2 - 24x - 106 = 0$$

Solve it by factorization:

(c)

Sol:

Suppose

x = hens

y = cows

⇒ as we know that a hen has 2 legs, while a cow has 4 legs

⇒ However, each has a single head.

So

$\therefore 1x + 1y = 48 \longrightarrow (1)$

$\therefore 2x + 4y = 140 \longrightarrow (2)$

Multiplying 1st eqn by "2" and eqn 2 by "1"

$$\begin{array}{r} 2x + 2y = 48 \\ \pm 2x \pm 4y = \pm 140 \\ \hline +2y = +92 \end{array}$$

$$y = \frac{92}{2} = 46$$

$\boxed{y = 46}$ Cow are 46.

~~title~~ (2)

Put $y = 46$ in eqn (i)

$x + 46 = 48$

$x = 48 - 46$

$\boxed{x = 2}$ Ans

⇒ So, hens are "2".

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(3) No: 8

(C):

Sol:

⇒ A is the brother of B,

⇒ while B is the sister of C

⇒ While C is the father of D

⇒ So, D is the nephew of A