Dos and Don'ts for the General Science & Ability Paper

Hi there — you've prepared well! Remember, knowing the content is one thing, but presenting it in the paper exactly as required is another. Here are a few key points to keep in mind:

1. For a 5-mark part, aim to write at least 2 and at most 3 sides of the answer sheet. Often, a question has two or three parts, and the marks are divided accordingly — so address each part fairly.
2. Manage your time wisely — you have about 35 minutes per full question, which comes down to around 8 minutes for each 5-mark part. Stick to this to avoid rushing later.
3. Make your answers look scientific, not just theoretical. Use flowcharts and diagrams wherever they add clarity.
4. Neatness matters — keep your handwriting clean, avoid cutting or overwriting.
5. Mind your spelling and grammar — while GSA doesn't deduct marks for these, your expression leaves an impression.
6. In the ability portion, explain analytical ability questions in words. For a 5-mark part, show all steps and provide clear explanations.

Good luck for CSS 2026 — you're going to ace it, in sha Allah! 🌟

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Batch 83
Mock Exam
General Science and Ability

08

Rules?
ROAD = 18 15 1 4
U2DG = 21 17 4 7
15 1 4 → 21 17 4 7

Rules
So every letter is shifted to +3 Position except the second letter which is an anomaly (shifted by +2) which can mean two things:
① Shift every letter by +3 and second letter by +2
or ② shift every letter by +3 unless the letter from source repeats, then shift it by +2
Considering both the conditions, will choose the 1st condition of shifting every letter by +3 and second letter by +2 in a four letter converter as it seems more plausible as it suggest strong encryption rules.

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Applying the rule on ~~for~~ LAKE.

1. L → O
2. A → D (+2)
3. K → N
4. E → H

~~LAKE → ODNH~~

LAKE (coded to) → OCNH

(b)

Man — sister + husband

|

son + woman

(nephew) (nephew's wife)

Son

1- The son of sister's husband is son of man's sister too, so the son is nephew of man.

2. Nephew is father of woman's son which means woman is wife of nephew.

So, as the man is uncle to the nephew so the woman will be niece in law to the man.

Q 8 (c) Find next number & explain pattern.

I) 4, 12, 6, 18, 9, 27, 13

(+2, +3, +6, +9)

Explanation it is a question of dual incremental series.

1- First series starts with 4 and reaches to 6 by +2 and after increasing of 1 its first place holder becomes 9 (+3). Similarly, by incrementing 1, +4 will be added in 9 to reach 13.

2. Second series is incrementing by 3. First 6 will be added then 9 and then 12 to get the base number 12 to 18, 27, 39 and so on.

d) (P, Q, R, S, T)

I. R < P < Q

II. Q < S < T

by comparing (I) and (II)

R < P < Q < S < T

So T is tallest and R is shortest.

(I) says that T is 180 cm tall and R is 150 cm tall

→ third tallest is Q.

We will consider that there is atleast a difference of 1cm between two peoples' height. So as R is 150 and T is 180 cm the plausable

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range from R's side start from 152 cm and from T's side ends at 178 cm.

So, Q's height range is between 152 cm to 178 cm.

Q 7 (a)

Total People = 100
Cricket = 65
Hockey = 40
Neither = 20
Watch atleast on = 100 − 20 = 80
How many watch both Cricket & Hockey = ?
Formula

Hockey + Cricket − Both = Atleast One
40 + 65 − Both = 80
105 − 80 = Both

Both = 25

So 25 People watch both Hockey & Cricket.

b

Pool is rectangular

(I) $L = W + 4$ — (1)

Perimeter $= 2(L+W) = 72\ m$

$L + W = 36\ m$ — (2)

Putting eq (1) in (2)

$W + 4 + W = 36$

$2W = 32$

$W = 16\ m$

$L = 36 - 16$

$L = 20\ m$

(II) Depth $= 2.5\ m$ Then find volume

Volume $= L \times W \times H$

$= 20 \times 16 \times 2.5$

$= 320 \times 2.5$

Volume $= 800\ m^3$

So, water needed to fill the pool is $800\ m^3$.

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(c)

Train A	Train B
8:00 AM	8:00 AM
60km/h	40km/h

City A — distance = 400 km — City B

1hr	2	3	4hr (1200)	5	2hr	1hr
60	120	180	240	160	80	40

In 1 hr the both trains collectively travels 100 km (60 + 40 km/h) so the 400km distance will be concluded in 4 hours at 12:00 PM where train A will have travelled 240km and train B would have travelled 160km thus making a total of 400km to cross each other at 1200 in the noon.

(d)

$F + S = 75$ years

$F - 10 = 4(S - 10)$ — (1)

$F + S = 55$ (10 years ago)

$F = 55 - S$

Putting it in (1)

$55 - S - 10 = 4S - 40$

$55 - 10 + 40 = 5S$

$85 = 5S$

$S = 17$

$F = 55 - 17$

$F = 38$

$F + S = 55$

$F - 10 = 4S - 40$

$F = 4S - 30$

$4S - 30 + S = 55$

$5S = 85$

$S = 17$

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Q7

(d)

$F - 10 = 4S - 40$

$\boxed{F = 4S - 30}$ — (1)

$F + S = 75$ years — (2)

Putting (1) in (2)

$4S - 30 + S = 75$

$5S = 105$

$\boxed{S = 21}$

$F = 75 - 21$

$\boxed{F = 54 \text{ years}}$

So today son is 21 years old and Father is 54 years old.

Explain all steps

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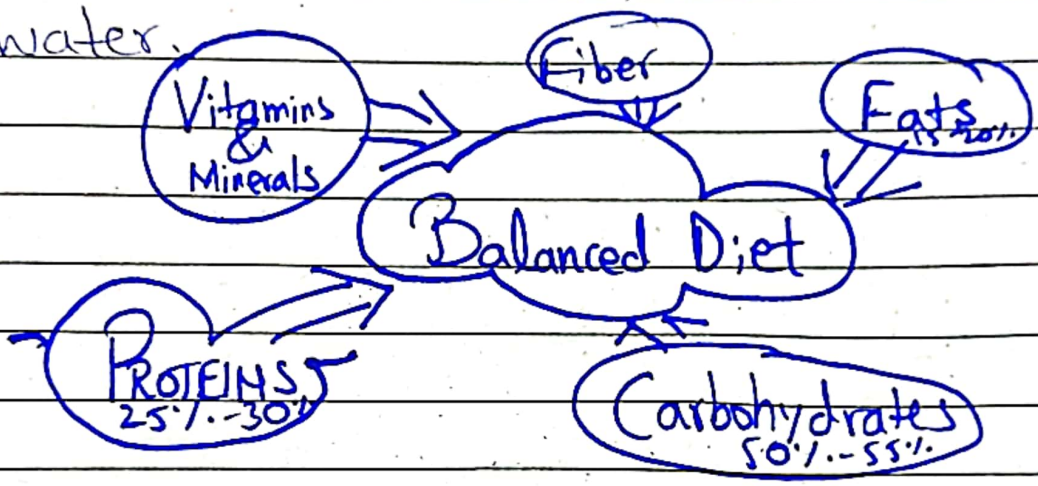
5 a) Balanced Diet

The type of diet that contains all the macro and micro nutrients required for our body to stay healthy and perform at prime is termed as balanced diet. It constitutes of carbohydrates, proteins, fats, vitamins, minerals, fiber and water.



Characteristics of balanced diet

A balanced diet must be able to :

1- Fullfill need of micro and macro nutrients.
2. Contains amble fruit and vegetables.
3. Must inclued fish, eggs and milk for Proteins and Omega Acid.
4. Should have some quantity of good fats to store energy.
5. Should contain less or no sugary and ultra Processed food.
6. Must contain fibers and water for gut health and keep us hydrated.

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Constituents of Balanced diet:

1). Carbohydrates

Carbohydrates are the most important constituent of a diet. They provide most of the energy required for daily work. Complex carbohydrates help with digestion. Carbohydrates, if unused, are converted into fats by body to be used as energy later when required.

examples of carbohydrates are rice, Potato, wheat e.t.c.

2) Proteins

Without Protein, the body can not function properly. Proteins are required to build and rebuild body muscles, tissues and organs. It is required to form antibodies and keep body in prime condition against and diseases. Proteins can also be used as a source of energy in absence of carbohydrates and fats, Proteins accelerate fat burning. Examples of proteins are eggs, fish, lentils and meat e.t.c.

3) Fats

Fats are used to store energy and Protect organs.

4) Vitamins

Vitamins are required in small amount for skin health, metabolism, immunity and eyesight e.t.c.

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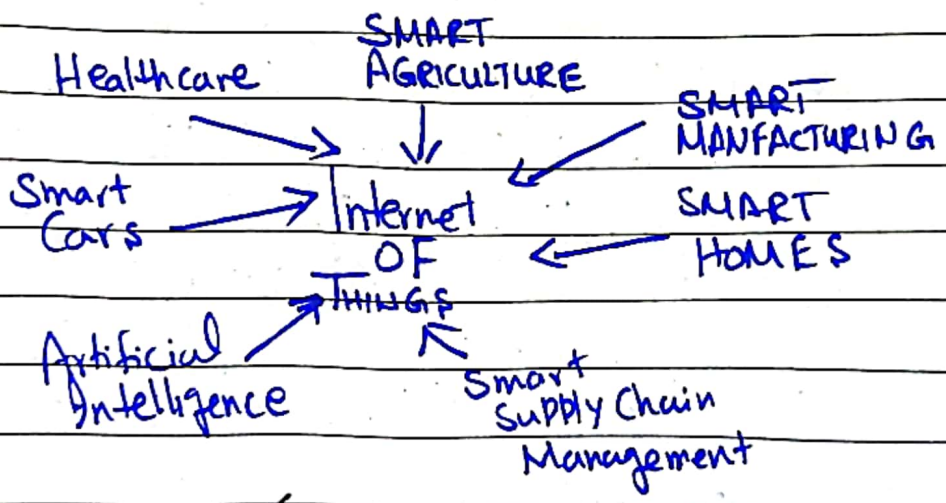
Q5 (c) Internet of Things (IoT)

Internet of things (IoT) refers to devices - such as sensors, robots, smart equipments and cars e.t.c. - acting on data without human intervention to make human lives easier. The read, collect and share data and make data driven decisions to reach set objectives. They have revolutionized a common man's life and made automation easier. Humans intervention is no longer required actively to control everything.



1- Transforming daily lives and business.

Internet of Things (IoT) is actively transforming businesses and daily lives. The concept of smart home has revolutionized a common man's idea of luxury and convenience. Smart thermostat control and security monitoring system control are few

Such examples that make secure housing will less energy consumption Possible. Manfacturing, supply chain management and warehouse management has bee revolutionized by the Internet of things and increased Profits of Industry.

2. Real world examples

1- Smart home

It constitutes of a home connected with sensors that can talk (communicate) to each other and data is controlled and collected at a hub. The hub has the ability to make decisions Preferred by the user like controlling and turning off lights of empty rooms, saving electricity in case of no Presence of humans by changing thermostat's temperature and alerting owner incase of security breach or anomaly. It gives access to owner to remotely control his home appliances as well.

2- Smart health care

IoT devices have made the lives of Patients secure, their data collection hassle free and their monitoring easier. Wearable IoT devices monitor the Patient's

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condition and generate reports that are regularly sent to the Patient. The devices remind Patient of medicine intake and incase of any emergency are able to contact emergency contacts, hospital and emergency services. Thus these devices are helping to save lives on daily basis.

Q5 (d) ; Comparison between RAM & ROM

	RAM	ROM
1-	RAM stands for Random Access Memory.	1. ROM stands for Read only Memory.
2.	RAM is volatile	2. ROM is not volatile.
3.	RAM can be rewritten.	3. ROM can't be rewritten
4.	RAM is ~~slower~~ faster	4. ROM is ~~faster~~ slower
5.	It is temporary storage for Programs in use.	5. It is Permanent storage for instructions and system software.
6.	Its size is large in Gigabites.	6. Its size is usuall small in Mega biter

II Basic Artitecture of Computer

Basic artitecture of computer consists of following units:

1- Input Unit - takes Input

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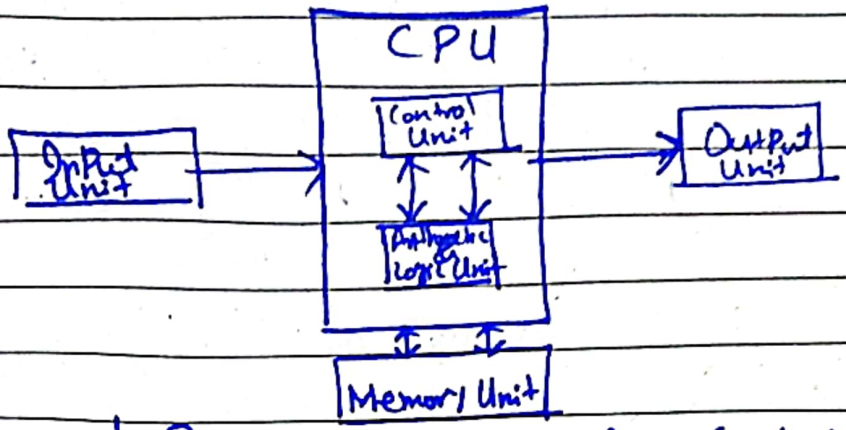
2. Output Unit — Shows output
3. Memory Unit — Stores data
4. Central Processing Unit



Basic Architecture of a Computer

CPU Architecture

CPU is said to be brain of computer where all the calculations happen. It consists of two major units.

1. Arithmetic & Logic Unit (ALU)

It is the part of CPU where all the arithmetic calculations happen (like AND, OR, XOR, XNOR operations etc.) It performs all the tasks that happens on the computer and compiles the results to be forwarded to the output devices.

2. Control Unit (CU)

It sorts all the commands with the priority and guides ALU to perform tasks and which task to perform first. It fetch instructions from input devices then act as a coordinator between ALU, memory and I/O devices to perform the tasks.

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Q5 (b) **Food Preservation**

The Process of treating food in such a way that extends its shelf life, destroys Pathogens and bacteria and enhance its quality and taste for longer Periods is called food Preservation.

Food Preservation is done mainly to save food from spoilage and keep its nutritional value intact to be used later.

Two important methods of food Preservation are Pasteurization & Canning.

1. **Pasteurization**: In this method liquids mainly milks are heated to high temperature to kill the bacteria and then cooled rapidly. It makes the liquids fit for consumption and extends their shelf life.

2. **Canning** It is a Process in which food is stored in air tight cans and jars and then heated to kill bacterias and Pathogens. It makes the food fit for consumption for longer Period of time.

Food filled in cans → Air sucked Out (2) → Heated to Destroy Bacteria (3)