

Dos and Don'ts for General Science & Ability Paper

Hi there, you've done well. Know that acquiring knowledge is one thing and reproducing it in paper according 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 2026. You're gonna rock in sha Allah. :)

Part II

Section - I

Question no. 02:

~~QAB~~

Malnutrition:-

Malnutrition is a term used when person's nutrition intake is disturbed and lack the nutritional food required for good health. There are two conditions elaborating malnutrition, that are under nutrition and over nutrition.

Malnutrition

Undernutrition Over-nutrition

Under nutrition means the person intake of nutrition is low than required. Over-nutrition is the case when nutrients intake becomes excessive than normal or required criteria.

Causes:

- 1: Mental disorder
- 2: Low incomes
- 3: Insufficient dietary intake.

Mental Disorder:

Depression, stress and eating disorders causes a person to eat more and less, causes disbalance in nutrition intake.

Low income:

Low income causes families to rely on less amount of food than required causing under-nutrition, a case of malnutrition.

Insubbicient Dietary Intake:

Some Individuals dietary intake is not suffiecient and have food that has low access to nutritious intake causing nutritional deficiencies.

Consequences:

↳ Physical consequences.

↳ Economical consequences

↳ Mental consequences.

1: Physical consequences:

Malnutrition can seque severely damage the human body and health. Over-nutrition can clogs veins causing heart problems and respiratory problems. Under-nutrient causing damage the muscles and tissues of body. Malnutrition can weaken the immune system. It can damage liver and effect the blood quality of individuals.

2: Economical consequences:

Malnutritional patient tends to depend on hospitals and cause significant effect on ones money

By relying on ~~healthcare~~ ^{Overnutrition} resources.

3:

Mental Consequences:

Malnutrition can further causes a individual depression and stress that worsen the situation. Some relies on health care and some relies on food that sometimes worsen the situation instead of curing.

~~BBB~~

Food contamination

Food contamination is caused by various physical, Biological and chemical factors. It happens when different bacteria, micro-organisms, chemicals and physical objects enter food and damage it by making it harmful. It can cause various health problems.

Types $\left\{ \begin{array}{l} \rightarrow \text{Physical contamination} \\ \rightarrow \text{Biological contamination} \\ \rightarrow \text{Chemical contamination} \end{array} \right.$

Food Adulteration

Food Adulteration is an intentional deteriorating food quality. It is done by substituting important substances and removing some valuable ingredients. There are many reasons an individual altered food for sale. Sometimes it's because of profit margins, some wants to meet the market competitors by reducing costs of food and common man buys it because of low price.

Draw a margin line

Q13

Computer buses:

Bus is a transport vehicle that transfers individuals from one place to other. Similarly, computer buses are the sources that transfer data or information between different devices such as CPU and memory card or printer and CPU (Central processing Unit).

RAM:

RAM stands for Random access memory. As the name refers, it has ability to access the data of any type directly from memory card. It is placed on the motherboard in the computer. It is a temporary storage device. It means we cannot access the data ~~ones~~ once the computer is turned on after shutting it down.

ROM:

ROM stands for Read only memory. It get access to data or information once the computer is shut on. The data is transferred from a small programming device to ROM called "BIOS". The data is permanently stored in computer and can be accessed any time ~~required~~.

~~add~~

Geo-Stationery Satellite:-

The artificial satellite when launched from Earth it reaches at the radius of 35,780 Km approximately. It is spot where the movement of satellite in the orbit around the Earth match Earth rotation.

around its axis. So, when seen from the Earth, it appeared stationary and fixed at particular spot. Such satellites are known as geo-stationary satellites.

Such satellites are used for communication (mobile, television) networks.

Natural Satellites:

Natural satellites are the celestial bodies that orbit particular planets. They are known as Moons. The natural satellite of Earth is known as Luna.

Draw a line for differences

Artificial Satellite:

Artificial Satellites are man-made satellites launched from Earth into space for particular purposes. Sometimes, for communication purposes, sometimes to study space and other similar purposes.

Question no. 04:

—Q.4—

Tropical Cyclones:

Tropical cyclones also named as hurricane, typhoons. It is used to describe the large scale circulation

of wind in atmosphere which combines strong destructive winds and low pressure. The circulation is clockwise in northern hemisphere and anticlockwise in southern hemisphere.

Stage of development in tropical cyclone.

- ↳ Tropical distribution,
- ↳ Tropical Depression
- ↳ Tropical storm
- ↳ Tropical cyclone

1: Tropical Distribution:

Wind is unorganized

2: Tropical Depression:-

Wind less than 39 mph.

3: Tropical Storm:

Wind between 39 mph to 74 mph.

4: Tropical cyclone:

Wind more than 74 mph -

Temperate cyclones:-

Temperate cyclones are also known as mid-latitude cyclone. Mid-latitude cyclones dominate the weather map. They are responsible for day-to-day changes in weather, brings precipitation. They consist of large, migratory low-pressure systems.

They are known as "depressions" in Europe and "extratropical cyclones" in United states. They basically brings conflicts in the 30° to 70° latitude. Their path of movement is generally towards east.

~~Explain~~

Star

Stars are made up of hot gases and spin in their axis.

Stars produced light by the radioactive reactions occurring on its surface.

Objects that revolve around stars are called planets.

Example; Sun,
Proxima Centauri

Planet

Planet is a celestial body that orbits a star.

Planet does not emit any light.

Objects that revolve around planets are called satellites.

Example; Earth,
Jupiter, Neptune.

Formation of black hole:

The first stage is known as Main-Sequence Stage in which hydrogen atoms combine together to form helium atom. It is an exothermic reaction and star produced excessive amount of energy in this phase.

After star exhausts the hydrogen, in core, it starts to fuse hydrogen in the shell surrounding helium core.

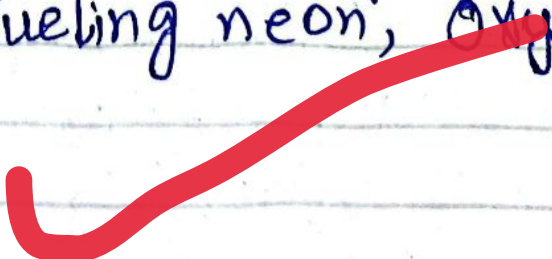
The outer layer expands and cool greatly and transfer into the red giant star.

Example of Red giant star is Betelgeuse.

After helium is exhausted from core of star, the core contracts.

Temperature and pressure in the the core start to rise enough to fuse carbon. This phase is known as carbon-burning phase.

After carbon fuses, the process continues by fueling neon, oxygen silicon.

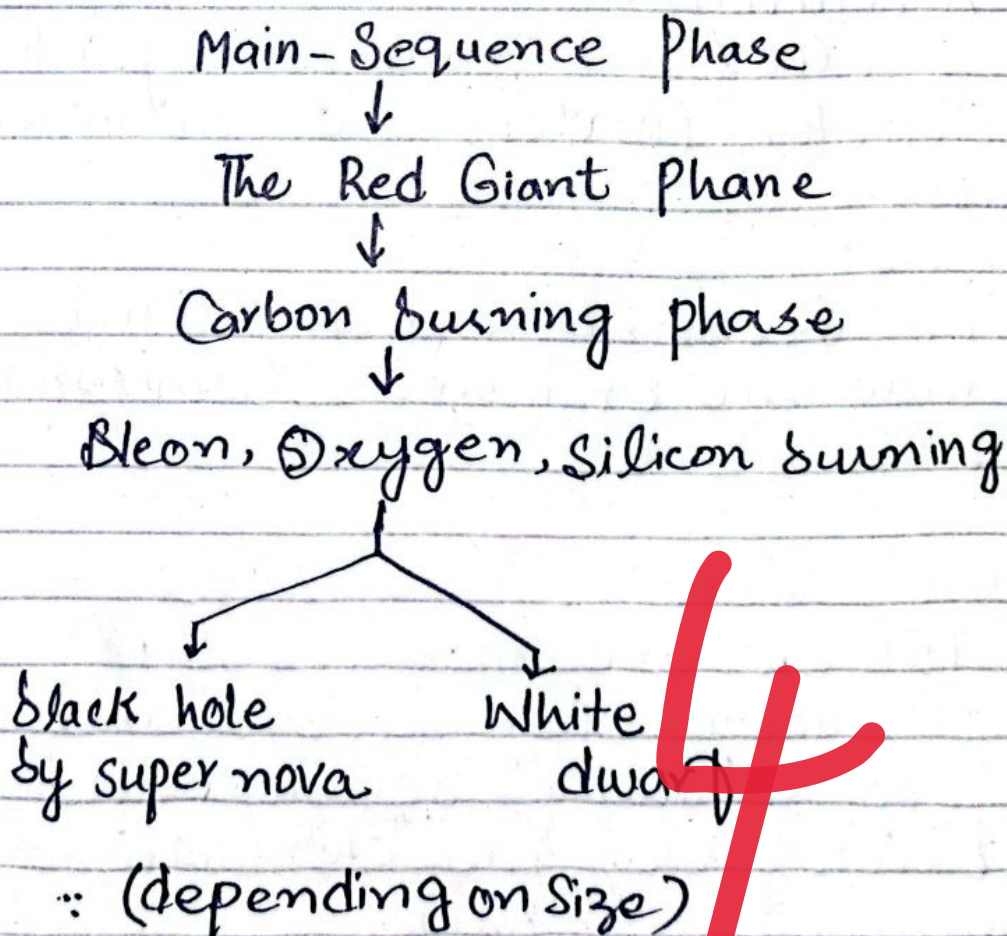


After it the star can adopt ~~one~~ two paths depending on its size.

If the star is massive, it will burst and explodes as super nova. After explosion, core of star is left.

The gravitational collapse of heavy stars' nuclei is assumed to be the reason of formation of black holes.

Once black hole is formed, it can continue to grow by absorbing additional matters. On the other hand, If star is of average or smaller size, it turns into white dwarf.



~~EdB~~

1:

Conductors:

A conductor is a material that allows electricity to flow through it. In a conductor, electrical charge carriers, move easily when voltage is applied.

Examples:

Human body is an example of conductor.

2:

Semi-conductor:

A semiconductor is a material having electrical conductivity between a conductor (water) and an insulator (glass).

Examples;

Silicon, Germanium and gallium arsenide are examples of semiconductors.

3:

Metals:-

Metals are the material that having usually shiny surface and are good conductors of heat and electricity. They are characterized as malleable and ductile.

Example;

Gold, platinum, Cobalt, tin are examples of metals.

4:

Plastics:

Plastics are synthetic or semi-synthetic materials made up of polymers combined together by a process called polymerization.

Example polythene bags are examples of plastics.

5. Ceramics:

Ceramics are non-organic materials that are non-metallic solids. They are made up of clay that have been shaped and then hardened under high temperatures.

Example:

Space shuttles, plates are some examples of ceramics.

Give simple examples

Section II

~~Q. 10~~

Th. Let, three numbers a, b, c .

Then,

$$a + b + c = 159$$

$$= \frac{159}{3} = 53$$

numbers will be, 47, 53, 59

$$11 + 13 + 1$$
$$31, 37, 38$$

$$13, 47, 51, 53, 57$$

$$58, 59, 61, 62$$

$$71$$

~~Q6)~~

Perimeter of Circle = $2\pi r$

$$r = 6 \text{ cm}$$

$$= 2\pi \times 6$$

$$= 2 \times \frac{22}{7} \times 6$$

$$= 37.68$$

$$\begin{array}{r} 3.14 \\ \times 12 \\ \hline \end{array}$$

$$628$$

$$14$$

$$37.68$$

~~Q7)~~

Let,

Present age of man = x

age of woman = y

age of child = z

Case I,

3 years ago,

age of man = $x-3$

age of woman = $y-3$

age of child = $z-3$

$$\frac{(x-3) + (y-3) + (z-3)}{3} = 27$$

$$x-3 + y-3 + z-3 = 27 \times 3$$

$$x + y + z - 9 = 81$$

$$x + y + z = 81 + 9$$

$$x + y + z = 90 \quad \text{--- (1)}$$

Case II, 5 years ago,

$$\text{age of wife} = y - 5$$

$$\text{age of child} = z - 5$$

$$\frac{y-5 + z-5}{2} = 20$$

$$z + \frac{y-10}{2} = 20$$

$$z + y - 10 = 20 \cdot 2$$

$$y + z = 40 + 10$$

$$y + z = 50 \quad \text{--- (2)}$$

Putting (2) in eq (1)

$$x + 50 = 90$$

$$x = 40$$

Present age of man,

$$= x + 3$$

$$= 43$$

(d)

Let, three numbers a, b, c .

$$a + b + c = 98 \quad \text{--- (1)}$$

$$\frac{a}{b} = \frac{2}{3}$$

$$a : b = 2 : 3$$

$$b : c = 5 : 8$$

$$b = ?$$

$$\frac{a}{b} = \frac{2}{3} \quad \text{--- (2)}$$

$$\frac{b}{c} = \frac{5}{8} \quad \text{--- (3)}$$

From (2),

$$a = \frac{2b}{3} \quad \text{--- (4)}$$

From (3)

$$\frac{c}{b} = \frac{8}{5}$$

$$c = \frac{8b}{5} \quad \text{--- (5)}$$

Putting eq. (4), eq. (5) in eq. (1),

$$\frac{2b}{3} + b + \frac{8b}{5} = 98$$

$$\frac{10b + 15b + 24b}{15} = 98$$

$$10b + 15b + 24b = 98 \times 15$$

$$49b = 1470$$

$$b = \frac{1470}{49}$$

$$b = \frac{210}{7}$$

$$\boxed{b = 30}$$

$$\begin{array}{r} 4 \\ 98. \end{array}$$

$$\begin{array}{r} \times 15 \\ 1490 \\ 98 \times \\ \hline 1470 \end{array}$$

$$\begin{array}{r} 24 \\ 25 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 210 \\ 70 \\ \hline 70 \end{array}$$

Question 07:

(a)

Let,

two numbers a, b

$$ab = 132 \quad \text{--- ①}$$

$$a+b = 23 \quad \text{--- ②}$$

$$a = 23 - b \quad \text{--- ③}$$

Put eq ③ in ①.

$$(23 - b)b = 132$$

$$23b - b^2 = 132$$

$$-b^2 + 23b - 132 = 0$$

$$b^2 - 23b + 132 = 0$$

$$b^2 - 11b - 12b + 132 = 0$$

$$b(b - 11) - 12(b - 11) = 0$$

$$(b - 12)(b - 11) = 0$$

$$\boxed{b = 12}, \quad \boxed{b = 11}$$

If $b = 12,$

then, eq ①,

$$a(12) = 132$$

$$a = \frac{132}{12}$$

$$\boxed{a = 11}$$

$$(11, 12)$$

If $b = 11$

then, eq ①,

$$a(11) = 132$$

$$a = \frac{132}{11}$$

$$\boxed{a = 12}$$

$$(12, 11)$$

$$2^2 = 4$$

$$3^2 = 9$$

$$4^2 = 16$$

$$5^2 = 25$$

$$6^2 = 36$$

$$7^2 = 49$$

$$8^2 = 64$$

$$9^2 = 81$$

$$\begin{array}{r} 2 \overline{) 132} \\ 4 \\ \hline 266 \\ 2 \overline{) 66} \\ 33 \\ \hline 11 \\ 11 \\ \hline 0 \end{array}$$