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NOA

MOCK EXAMS : CSS - 2025

General Science & ability

PART II

SECTION I ⇒

Q2. Define the term mal-nutrition, elaborate its major cause and consequences.

## Malnutrition:

Mal-nutrition is defined as the inadequate nutrition or the deficiency of nutrients in the diets. Thus the nutrition which lacks any of the essential nutrients such as vitamins or minerals as well as the diet which does not include protein or carbohydrate or fats, which are needed for a healthy digest body, is termed as mal-nutrition.

## Causes of mal-Nutrition:

(i) Poverty: Poverty is the mean cause of the wide-spread of mal-nutrition as due to its poverty people can not full fill their daily required diet and nutritionent. They can not afford the balanced diet in their daily routine.

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(ii) Health conditions:

Some health conditions deprive the body of essential nutrients. like problems in the absorption of nutrients i.e vit $B_{12}$.

(iii) Unawareness:

Lack of awareness regarding balance diet is another key factor contributing to the mal-nourished nation. People do not know about the quantities of nutrients required in their daily diet. They keep on consuming a single nutrient like carbohydrate or protein and their diet lacks vitamins and minerals which results in mal-nutrition

(iv) Consumption of junk food:

Consumption of unhealthy food like junk food and ignoring the healthy diets also results in mal-nutrition.

CONSEQUENCES OF MALNUTRITION:

Mal-nutrition is the root cause of many harmful diseases and abnormalities. The mal-nourished mother will give birth to unhealthy and abnormal babies with anomalies.

The deficiencies of certain vitamins can cause incurable diseases i.e vit D deficiency causes rickets, vit $B_{12}$ deficiency causes

anemia and neuropathic disease, Vit A deficiency causes eye problems etc.

Q.5 Differentiate between food contamination and adulteration.

Food contamination:

Food contamination is the mixing of any contaminant in the food making it unhygienic and sometimes harmful to health. The contaminants like any foreign particle, bacterial growth or fungal growth making the food unhealthy. The chances of food contamination is higher in processed food items. The food under go many stages to be processed, carelessness in any of the stage causes the mixing of contaminants in the food. So food contamination is the results of carelessness and accidentily mixing of the contaminants in the food.

Food adulteration:

The intentional mixing of any other constituents in the food in order to gain profits is the world wide practice of the food industries. This is termed as food adulteration.

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Food adulteration comes in the category of crime as it is an intentional act which results in harmful effects on health, by destroying the food quality. Examples of food adulteration are mixing chemicals in milk and eatable items, etc.

c. What are computer buses? Differentiate RAM and ROM.

Computer buses: Communication System: The system which helps in the transfer of data between the computer's components.

Three types of computer buses:

(i) → Address bus

This part trasfers memory from the processors to other components.

(ii) Data bus:

Transfers data from the processor to other components.

(iii) Control bus:

Transfers control signals from the processor to other components.

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Differences between RAM and ROM

| RAM | ROM |
|---|---|
| * Random-access memory | * Read-only memory |
| * It is volatile | * It is non-volatile |
| * Removed after shutting down the device. | * Does not get removed. |
| * It is smaller in size a few MBs. | * It is larger in size 2GB – 100s GB. |
| * Stores the temporary memory. | * Helps in the processing. |

d. What are Geo-stationary satellites? Distinguish natural and artificial satellites. How many satellites of Jupiter are there?

Geo-stationary satellites:

The satellites which rotate with the earth orbit and are placed above the earth equator are called Geo-stationary satellites. They appear stationary from the earth

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because of their revolution along with the earth orbit. They complete ~~complete~~ ~~ret~~ one revolution in 24 hours.

| Natural Satellites : | Artificial satellites |
| --- | --- |
| The satellites which are naturally present on the space are termed as natural satellites. They rotate around every planet along their orbit. | Artificial satellites are man-made satellites, sent to the space through space technology. |

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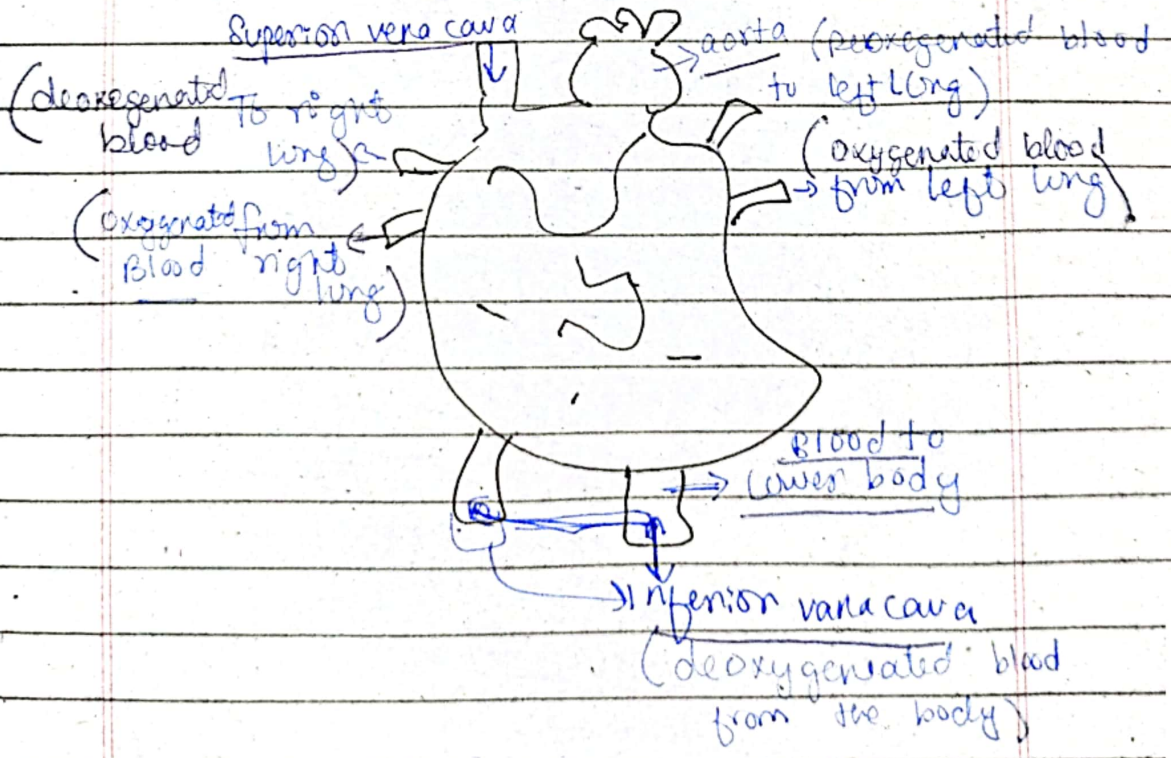
Q.3 What is meant by the term double circulation. Briefly describe how the heart is adapted to keep blood flowing in double circulation.

## Double circulation:

The heart is a vital organ of the body which pumps blood to all over the body and removes waste from the body. Heart works with the mechanism of double circulation.



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Firstly the blood collects the deoxygenated blood from the body through superior and inferior vena cavas. Then this blood is pumped to lungs for oxygenation. The oxygenated blood is then pumped backed to the heart and distributed to all parts of the body through aorta.

Q. → Liver as Chief chemist:

Liver as a chief chemist:

- → Liver functions to purify our blood from filterating out toxins.
- → Liver regulates the normal sugar level of the blood
- → Liver regulates blood clotting
- → Liver does other functions as well.

- Liver has the phagocytic cells called kupffer cells which helps in elimenating the dead blood cells and bacteria from the blood.

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c. Green house effect is a blessing:

Greenhouse effect is a blessing as it maintains the temperature of the earth to a certain degree Celsius by making the earth survivable for the living creatures. Otherwise the temperature of the earth would have been less than 0°C, making the earth as cold as mars and the survival would have been difficult.

Enhanced green house effect and its relation in Global warming:

Enhanced green house effect leads to the accumulation of green house gases causing global warming. The consequences include increased ocean temperature, melting of glaciers, natural disasters i.e super storms, flooding and droughts. Reforestation, higher use of electrical equipments, burning fossil fuels and automobiles gases all contribute to enhanced green house effect.

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## d) working of a GPS:

GPS, Global Positioning System, is a radio navigation system owned by the US. Govt. Initially it was called NAVSTAR, based on the constellation of satellites owned by the U.S. The 31-well-placed, orbiting satellites work on the principle of trilateration and locate distances accurately. The users with sensors and receivers within the orbit of any three of the satellites, pinpoint their exact location. The GPS device when receives signals from the GPS satellites it applies mathematical formulas to accurately determine the location and position of the user. There are three segments of GPS, Satellite segments, control segments and user segments. They work together to determine location, distance and speed of the users.

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## Working of mobile:

The micro chip on the phone ~~many~~ converts the radio signals into electrical signals and then they are captured by a cell phone tower and are transfered. When the signals are received by ~~are~~ the other side, the signals are converted into radio signals. The electrical signals cannot be transfered on their own rather the cell phone towers are used and work by connecting to the cellular networks

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# Section II

ANS 6

a) → Enrollment in January 2022 → 850 students

Enrollment in January 2023 ⇒ 1120 students

Percentage increase → ?

Solution:

Percentage increase →

$$= \frac{\text{Increase in number}}{\text{Initial number}}$$

Increase ⇒ $1120 - 850 = 270$

$$\Rightarrow \frac{270}{850} \Rightarrow 0.317$$

%age increase = $0.317 \times 100$

$= 31.7\%$

(b) Man is 5 times older than son:

Let man's age = y

Let son's age = x

Man's age (y) = 5(x)

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Two years ago :

$(y^2 + x^2) = 114$

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

Squaring B.S :

$\sqrt{25x^2} + \sqrt{x^2} = \sqrt{114}$

$5x + x = 10.67$

$6x = 10.7$

$x = \frac{10.7}{6}$

$x = 1.78$

Age of son is 1.78 years.

Q.

Speed of the car during the first half = 40 km/h

During 2nd half = 60 km/h

Average speed = ?

Average speed $\Rightarrow$ $\frac{\text{First half speed + 2nd half speed}}{\text{Total number of speeds}}$

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Average speed ⇒ $\frac{40 + 60}{2}$

⇒ $\frac{100}{2}$

Average speed = 50 km/h

8.

QNO8:

a)

Formula for the area of the outer view of worship halls:

The outer view of worship halls is square in shape:

Area of the Square ⇒

~~A = s²~~

$A = l^2$

b. Mixture = 60l

Ratio of milk : water = 2 : 1

If ratio is 1 : 2

what quantity of water to be further added?

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Solution:

2:1 means 3 parts of 60l

$\Rightarrow \frac{60}{3} = 20$

water is 1 ratio means 1(20)

$\Rightarrow$ 20 l

milk is 2 ratio means 2(20)

= 40 l

If the ratio reversed : 1 : 2

water is :2 in this cas $\Rightarrow$ 2(20)

$\Rightarrow$ 40 l

milk is 1 = 1(20)

= 20 l

Result 20 liter of water is to be further added.

C) A brother of B
B sister of C
C father of D

D is the nephew of A and A is the uncle of D.

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d. Code : ROAR : URDU

Recoding

R - 3 step forward U
O - 4 steps forward R
A - 3 steps forward D
R - 3 steps forward U

URDU written in Code ROAR

U 3 steps forward → X
R 4 steps forward → V
D 3 steps forward → G
U 3 steps forward → X

XVGX is the new code for URDU → when written in ROAR code.