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PART II

SECTION - 1

Q. No. 2

- a) Define the term malnutrition, elaborate its major causes and consequences.

⇒ Malnutrition:

A condition which is caused by not getting enough calories, nutrients, vitamins and minerals that are needed for health known as malnutrition.

⇒ Causes of malnutrition:

The causes of malnutrition are following:

- Lack of access to food
- Deficiency of vitamin C
- Deficiency of minerals
- Diarrhoea
- Anorexia
- Dementia
- Climate's change
- Use of alcohol.

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⇒ Consequences of malnutrition:

- The consequences of malnutrition are:
- Increased risk of pressure sores.
- Reduced mobility and increased risk of fall.
- Respiratory infections.
- Hypothermia level increases.
- The recovery becomes prolonged.
- Memory loss.
- Reduced quality of life.

(b) Differentiate between food contamination and adulteration.

Food contamination

- The presence of harmful substance in food that can make it unsafe for consumption is called food contamination.

Food adulteration

The process of mixing harmful substances into organic food to increase its quality and quantity is called food adulteration.

- Contamination is the deterioration of the quality of food substance.

The addition of certain ingredients which are not legally permitted.

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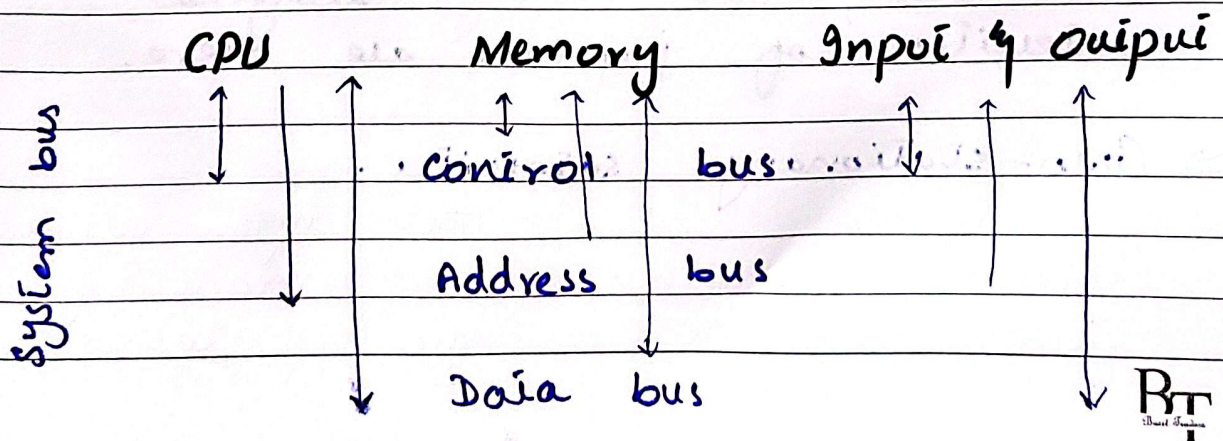
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- GI is not performed as a practice. GI is performed as a practice to get more profit.
- contamination can happen naturally as well as man-done. GI is mostly man-done.
- a result of environmental factors such as Heat, humidity etc.

(c) What are computer buses? Differentiate RAM and ROM?

⇒ Computer buses:

A communication system that transfers data, addresses and control signals between components within a computer or between computers is known as computer buses.



RAM

- g_i stands for random access memory.
- g_i is a temporary memory.
- The Data in RAM can be changed or deleted.
- g_i is a volatile memory.
- g_i has high speed memory.
- we can read and write the memory.

ROM

- g_i stands for read only memory.
- g_i is a permanent memory.
- g_i cannot be changed or deleted.
- g_i is a non-volatile memory.
- g_i is slower than RAM.
- we can only read the memory and cannot write through it.

(d) What are geostationary satellites?
Distinguish natural and artificial satellites, How many artificial satellites of Jupiter are there.

⇒ Geo-stationary: satellites:

The high-altitude satellites which appear stationary from the earth are called:

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geo-stationary satellites.

These are at an altitude of about 22,300 miles directly above the equator.

Natural satellite

- The terrestrial bodies which revolves around another planet naturally is called natural-satellite.

e.g

- Moon is the natural satellite revolve around the earth naturally.
- These satellites are formed by nature. They are permanent.
- They are not used for communication.
- They are not controlled by humans.

Artificial satellite

The object which is sent into the space to revolve around the sun and other planets is called artificial satellites.

Explorer-1 is the artificial satellite.

They are man-made.

They are temporary.

They are used for communication.

These are controlled by humans.

⇒ Jupiter satellite: There is only one artificial satellite to orbit Jupiter.

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Q NO. 4

(a) Differentiate b/w temperate and tropical cyclones.

Temperate cyclones

- They are formed due to interaction of warm and cold air masses.
- They move from west to east.
- They effect on larger area.
- They formed on both land and sea.
- They can last for a duration of 15 to 20 days.

Tropical cyclones

- They are formed over large bodies of relatively warm water.
- They move from East to west.
- They effect on smaller area.
- They only formed on sea.
- They cannot last for more than 7 days.

(b) Differentiate star and planet?
How a star becomes a black hole?

Star

- Stars have their

planet

planets do not have

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own heat and liquid

their own heat and liquid.

- Stars are huge in size compared to planets.
- Stars have high speed than planets.
- Stars are made up of hydrogen, helium and mostly in a plasma state.
- Planets are smaller in size as compared to stars.
- Planets have low speed than stars.
- Planets are made up of rock, ice, water or gas.

⇒ How a star becomes a black hole?

Black holes are made when the center of a very big star falls in upon itself, or collapses. When this happens, it causes a supernova.

(c)

Why do atoms form chemical bonds? Explain structure of water.

⇒ Why do atoms form chemical bonds?

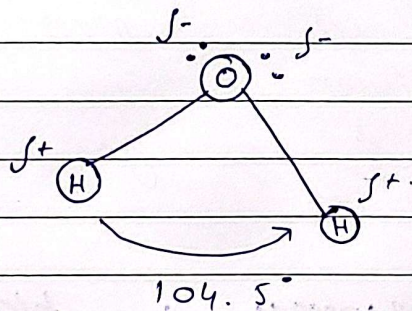
A chemical bond is a force of attraction between atoms and ions. Bonds form when atoms share or transfer valence electrons.

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Atoms forms chemical bonds to achieve a full outer energy level, which is the most stable arrangement of electrons.

⇒ Structure of H_2O :



(d) What are conductors, semiconductors, metals, plastics and ceramics. Give an example of each.

⇒ conductors:

The materials that allow the electricity to pass through them are called conductors.

- e.g. Graphite
Mercury
Steel
Water.

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⇒ **Semi-conductors:** A material which have a conductivity between conductor and non-conductor or insulator is called semi-conductor.

● **Example:**

silicon

sulphur

Boron

⇒ **Metal:** A material which is hard, shiny, malleable, fusible and ductile with good electrical and thermal conductivity is called metal.

● **e.g**

Iron

Gold

Silver.

⇒ **Plastics:** A wide range of synthetic or semisynthetic materials that use polymers as a main ingredient known as plastics.

● **E.g**

Nylon.

⇒ **Ceramics:** Hard, brittle, heat resistant material made up from inorganic non-metallic substances called ceramics.

● **e.g** bricks, tiles, glass.

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Q # 7

(a) The sum of two numbers is 23 and product is 132. Find the number.

$$x + y = 23 \quad \text{--- (i)}$$

$$xy = 132 \quad \text{--- (ii)}$$

from the (i) eqn.

$$x + y = 23$$

$$y = 23 - x \quad \text{(iii)}$$

putting the (iii) into (ii) ...

$$xy = 132$$

$$x(23 - x) = 132$$

$$23x - x^2 = 132$$

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

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

$$x = 11$$

$$x = 12$$

if $x = 11$ then $y = 23 - 11$

$$= 12$$

if $x = 12$ then $y = 23 - 12$

$$= 11$$

TWO numbers are 11 and 12.