you can edify by presenting it in more fascinating way. such as diagrams, clearly labeling it. creating heading and sub headings and then explain it a little. following the standard method for maths portion with accurate calculations. and good use of marker can help you in earning good grades.

Subjective Part

M.C.Q
13

Section-I

Question# 04?

What is Hepatitis? Explain it causes, symptoms and prevention?

Answer:

"Hepatitis is the inflammation of the liver."

- There are three types of Hepatitis: Hepatitis - A, Hepatitis - B and Hepatitis-C

Causes:

- Hepatitis is caused by a host of bectaria, vines and parasites.
- Immune cells in the body that attacks the liver
- Liver affected by alcohols or toxins
- Fatty liver

bectaria

Hepatitis-A: It is a viral liver diseases caused by contaminated water and food and by the direct contact with an infected person.

Hepatitis-B: is a viral infection which is caused if a person comes in direct contact of the blood and other fluid of the infected person.

Hepatitis-C: It is the most chronic liver infection. 15% children death and 20% youngster death has been recorded due to chronic Hepatitis-C.

④

Symptoms:

- Fatigue
- Headache
- Muscle aches.
- Yellowing of eyes and skin
- Joint pain
- Diarrhea, vomitting etc.

In severe cases, it also shows the symptoms of

- Anemia
- Jaundice

Prevention:

Health care providers typically removes the stress factor from the liver as much as they can. It is usually done by changing one's diet and living conditions.

- Moreover, alcohols, toxins and fats are removed from the diet in order to remove stress from liver.
- Clean drinking water and food
- Certain types of chronic hey hepatitis can be treated directly by medication.

Chronic Hepatitis-C can be treated by anti-virus while Chronic Hepatitis-B requires a life-long treatment.

(b) Food Preservation Method:

Defination:

“Food preservation is a technique to prevent food spoilage, food poisoning and bacterial contamination of food.”

9

Methods:

(1) Chemical Method:

‘Salts’ and ‘edible oils’ are used as food preservatives since ages to prevent the bacterial spoilage of food. That's why, **oil is used in pickles**

7.30
8.0
8.00 60
7.0
9:30

Preservation by salt is known as **salting**. Salting Method is used to preserve fruits from spoilage.

Meat and fishes are also preserved by Salting.

Some other synthetic preservatives are Sodium benzoate etc.

Sugar

Add Sugar to food is the most common preservative technique. Sugar is used in Jallies and Jams. Sugar is the good moisture absorbent. It absorbs moisture to prevent food from bein spoiled.

Heat And Cold Method:

Boiling and Refrigerating are the most common method to preserve food.

Refrigerate **Boiling** kills the micro-organisms that can not tolerate extreme temperature and thus inhibit the growth of bacteria and prevent food.

Refrigerators have very high temperature that as Micro-organisms do not get optimum temperature for their growth, their growth is inhibited.

Canning:

Canning is a process in which food is preserved in air-tight containers. Fruits meat and fish are preserved by canning.
In canning, food is preserved in air-tight container at high-temperature and thus preserved the food.

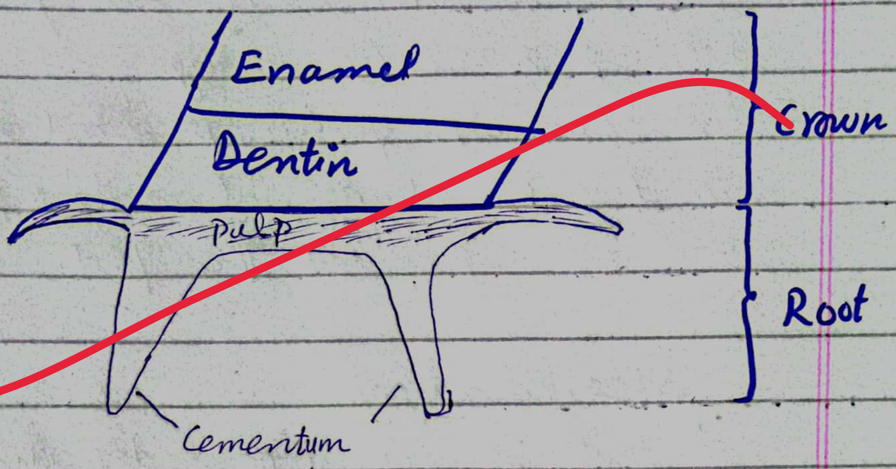
Sterilization.

"Sterilization is a process by which bacteria is removed from food."
For Example: Sterilization of milk at **100°C** removes bacteria from the milk.

Fermentation:

"In the process of fermentation, the sugar in food is converted to alcohol or acid by using micro-organism."
The acidic or alcoholic environment prevents the growth of microorganisms and prevent the food from spoilage.
For Examples:
Fermented diary product like Yogurt and fermented beverages like wine.

(d) Anatomy of a human tooth:



Human teeth are total 32.

Uses/Functions:

- Human teeth are used in the mechanical digestion of food.
- They give prop shape to the human face.
- They help humans in the verbal communication.

Types, Numbers and their Functions

Insicors
Incisors

1. **Incisors:** They are the frontal teeth. Total 8 in number. They are sharp-ended and used in the cutting of food.

Canines: They are pointing-shaped teeth. They are total 4 in number. They are responsible for tearing of the food.

Pre-Molars: They are flat-ended and 8 in number. They are used for grinding of the food.

Molars: They are also flat-ended teeth and total 12. They are helpful in vigorous chewing.

Structure:

Enamel It is the outermost layer and the strongest part of the human teeth. It provides protection to the teeth.

It is also a strong part and comes next to enamel.

It is the reddish part that contains (cappilaries) blood vessels. It provides necessary neutrients and

2

gases for the neurishment of the teeth. It provides calcium and flaurine etc to the teeth.

Crown: It is the visible part of the teeth.

Root: Root is the invisible part of the teeth.

Cementum: It is an anchored part of that is responsible for the fixing of tooth in Jaws.

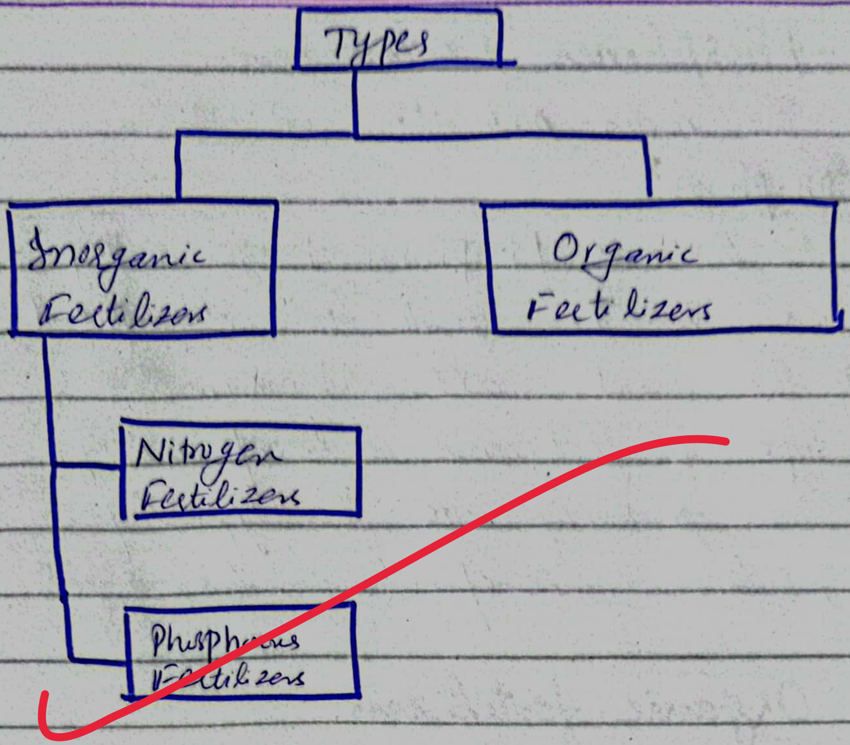
(c)

Fertilizers:

"Fertilizers are the substances that are used in **crops** to provide necessary neutrients and enhance the productivity of **crops**."

Types:

Inorganic fertilizers
Organic fertilizers


Types
Inorganic Fertilizers
Organic Fertilizers
Nitrogen Fertilizers
Phosphorous Fertilizers

Inorganic fertilizers: are one of the examples of chemical fertilizers that involves various essential nutrient elements. Furthermore, they are formed by chemical means and not by natural means.

It has following (2) two types:

- **Nitrogen Fertilizers:**

It contains nitrogen that crops require for their development.

Furthermore, chlorophyll's main constituent is nitrogen that maintains a balance in photosynthesis.

•Phosphores Fectilizers:

The main nutrient in it is — 'phosphores.'

Furthermore, Phosphorus plays a key role in the growth and development of the plant cell. Moreover, this type of fertilizers is beneficial for the growth of roots. This type of fertilizer is beneficial for the of roots.

Organic fertilizers:

They are the second main type. They are obtained from living beings — Agricultural waste, municipal sludge, Industrial waste.

Here, the composition of the fertilizers is such that soil enrichment takes place. The soil enrichment takes place due to the Carbon compounds that play an important role in the growth of plants.

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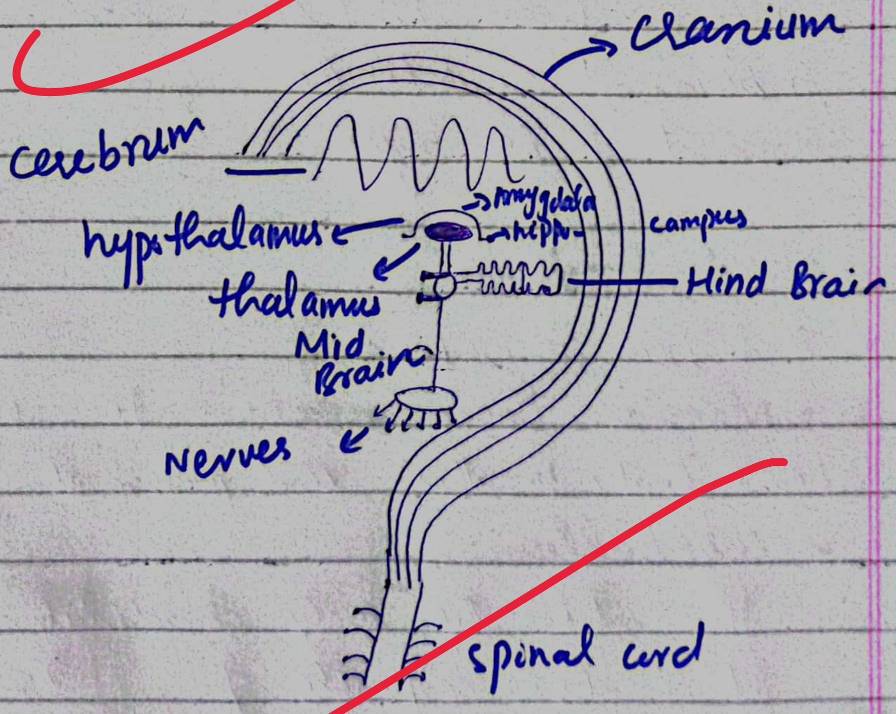
Question 2)

Nervous System

Human Brain:

Human brain is the major part of the central nervous system. It controls all the human system and manages the human affairs.


cranium
cerebrum
amygdala
hippo-
campus
hypothalamus
thalamus
Hind Brain
Mid Brain
Nerves
spinal cord

It is divided into 3 parts

a) **Fore Brain:** It is the frontal part. brain.

It has various parts:

- **Thylamus:** It carries sensory information to the limbic system.

b) Limbra system

- **Hypo-Thylamus:** responsible for thirst, hunger and manages menstrual cycle
- **Hippocampus:** responsible for short term storage
- **Amygdala:** controls the emotions.

c) Cerebrum: It is the rational part. It helps in judgement, thinking, learning & decision-making etc.

Mid-Brain: It acts as a connector between hind-brain and forebrain. It controls the reflex movement of the eyes.

9

Hind-Brain:

Hind brain is composed of

- **Mangla Omblumgata:** It controls heart beat, breathing, blood pressure etc.
- **Cerebellum:** It controls the body co-ordination. It is also responsible for long-term memory storage.

2- Neurons: are the fundamental units of the brain and nerves system and are responsible to receive sensory information from the external world.

Spinal cord:

The spinal cord is a part of the central nervous system that acts as a highway for sensory information and motor commands to travel to and from the brain.

Peripheral Nervous system:

It consists of the nerves that branch out from the brain and the spinal cord. These nerves form the communication between the central nerves system and the body parts.

(c) Hydrogen-bonding

The [illegible] hydrogen-bonding is present between water molecules.

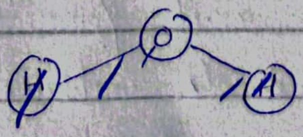
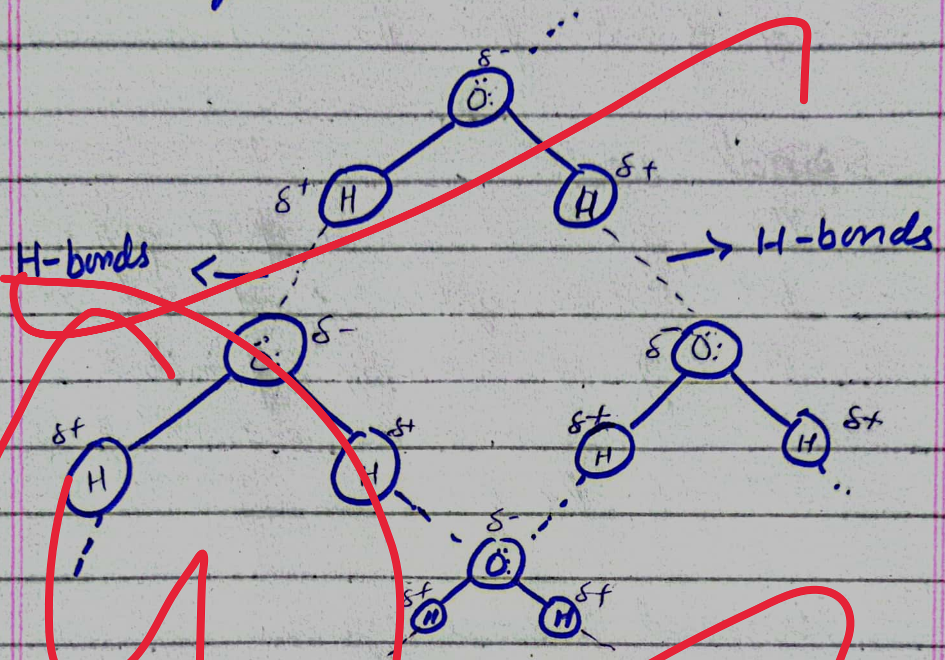


Diagram:



Formation.

In a water molecule, two hydrogen and one oxygen atoms are present. The oxygen atom being more electronegative as it has lone pairs of electrons on it, it acquires the partially negative charge while hydrogen acquires partially positive charge. The partially negative charge oxygen attracts the partially positive charge hydrogen atoms of the neighboring water molecules and form the hydrogen bonds. The bonds continues to form and a strong (hydrogen) water molecules is formed.

(b) Few Measures for energy Conservation and its sustainable use:

②

- **Use of solar energy:**

  Solar panels are the best way to conserve energy. Solar energy are renewable and can be used continuously (for the) as long as the sun shines.

- **Wind Energy:**

  Wind mills are used to produce wind energy that are used to generate power used for domestic and industrial purposes.

- **Use of LED:**

  LEDs are ~~de~~ used to conserve energy and protect the wastage of energy. LEDs operates on less power and energy.

- **Benefits:**
  - Protect the environment
  - Reduces pollution
  - longer existence of fossil fuels.

Section-II

Q#18)

(a)

Width = 60% of length

length = 15ft

Room's dimension?

$$\text{Width} = \frac{60}{100} \times 15\text{ft}$$

$$= 9 \text{ ft}$$

Area = width × length

$= 9\text{ft} \times 15\text{ft}$

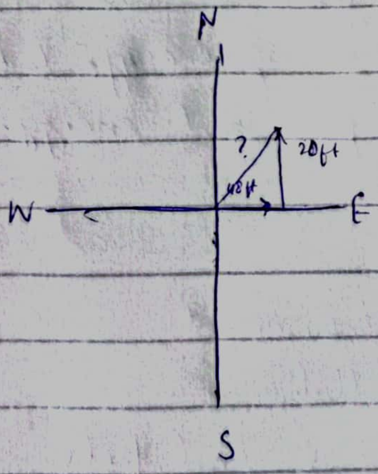
$= 135\text{ft}^2$

Perimeter = 2 length + 2 width

$= 2(15\text{ft}) + 2(9\text{ft})$

$P = 30 + 18 = $ **48ft.**

(b)



Use Pythagorian Theorem.

$(\text{Hypo})^2 = (\text{base})^2 + (\text{Alt.})^2$

$= (48\text{ ft})^2 + (20\text{ ft})^2$

$= 2304 + 400$

$\sqrt{\text{Hyp.}^2} = \sqrt{2704\text{ ft}^2}$

$\boxed{\text{Hyp} = 52\text{ ft}}$

③

∴ She Would have run 52 ft, then.

(c)

Avg. marks = 52.15

Total Students = 40

Correct Avg. ??

$52.15 = \dfrac{\text{Sum of all marks}}{40}$

Sum of all marks = 2086 − 85 + 49

= 2050

③

Now

$\text{correct Avg} = \dfrac{2050}{40}$

52.15

$\boxed{\text{New Avg.} = 51.25.}$

③

(d)

Vegetable pizza = 37 people
chicken pizza = 25 people
3 likes neither.

P(chicken pizza person) = ?

Total People = 37 + 25 + 3
= 65 people.

40
25
65

$$P(\text{Person like chicken Pizza}) = \frac{25}{65}$$

$$= \frac{5}{13}$$

Question 6)

(d)

$13, \underbrace{24,}_{11} \underbrace{46,}_{22} 90, 178, \_\_\_?$

24 − 13 = 11

$24 - 13 = 11 \times 2 = 22$
$46 - 24 = 22 \times 2 = 44$
$90 - 46 = 44 \times 2 = 88$
$178 - 90 = 88 \times 2$
$x - 178 = 176$
$x = 176 + 178$
$= 254$

$\begin{array}{r} 88 \\ \times 2 \\ \hline 176 \end{array}$

$\begin{array}{r} 24 \\ -13 \\ \hline 11 \end{array}$

$\begin{array}{r} 46 \\ -24 \\ \hline 22 \end{array}$

$\begin{array}{r} 178 \\ -90 \\ \hline 88 \end{array}$

$\begin{array}{r} 90 \\ -46 \\ \hline 44 \end{array}$

$\begin{array}{r} 254 \\ -178 \\ \hline 76 \end{array}$

13, 24, 46, 90, 178

$24 - 13 = 11$) $\times 2$

$46 - 24 = 22$) $\times 2$

$90 - 46 = 44$) $\times 2$

$178 - 90 = 88$) $\times 2$

$x - 178 = 176$

$x = 354$

2

So the next term is 354

(ii) 5, 6, 9, 14, 21

$5 + 1 = 6$

$6 + 3 = 9$

$9 + 5 = 14$

$14 + 7 = 21$

$21 + 11 = 32$

There is an addition of odd number in the previous numbers

So, the next term will be 32.

30

(c)

Diameter $= 6cm \Rightarrow r = \frac{d}{2} = 3cm$

circumference of circle $= C = 2\pi r$

$= 2 \times \pi \times 3 = 6\pi$

$$\boxed{C = 18.849\ \text{cm}}$$

③

$$\text{Area} = \pi r^2$$
$$= \pi (3\text{cm})^2$$
$$\boxed{A = 28.27\ \text{cm}^2}$$

(a)

$$a + b + c = 15 \rightarrow (1)$$
$$b + c = 12 \rightarrow (2)$$
$$b - c = 2 \rightarrow (3)$$

④

$$b + \cancel{c} = 12$$
$$b - \cancel{c} = 2$$
$$2b = 14$$

$\boxed{b = 7}$ Put in (2)

$$7 + c = 12$$
$$c = 12 - 7 = 5$$

So,

$$a + 7 + 5 = 15$$
$$a = 15 - 12 = 3$$
$$\boxed{a = 3}$$

So, the three digit numbers are:

$a = 3$ and $c = 5$.

$b = 7$