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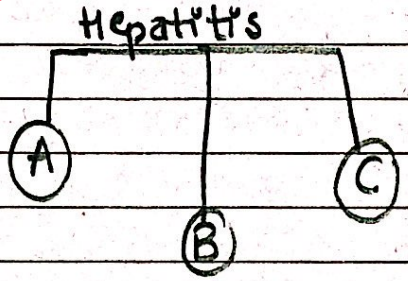
Q.4 a) Hepatitis?

→ **Definition:**

The inflammation of liver caused by bacterial, viral or other consumption of alcohol and smoking is called heapatitis.

→ **Classification of Hepatitis:**

Hepatitis are classified into following categories



→ **Symptoms of Hepatitis:**

Symptoms of hepatitis includes;

(i) Yellowing of eyes
(ii) Swallowing of liver
(iii) Nausea
(iv) Vomiting
(v) Weak immune System
(vi) Difficulty in breathing
(vii) High fever
viii Jaundice

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→ **Causes of Hepatitis :**

The causes of hepatitis are as follows;

(i) **Use of Raw Food**

When people use raw food such as fish, the virus transmitted to people from food.

(ii) **Contact with Infected Person**

The sexual contact with infected person transfers virus into other person.

(iii) **Use of Infected Razors**

The use of razors without sterlization is another cause of hepatitis.

(iv) **Consumption of Alcohol**

The consump-tion of alcohol leads to inflammation of liver.

(v) **Smoking**

The pattern of excess smoking causes heapatitis.

(vi) **Unhygienic Conditions**

The unhygienic conditions lead to hepatitis such as avoidance of washing hands after use of washroom.

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→ **Prevention of Hepatitis:**

Following are ways to prevent hepatitis.

(i) Use of Cooked Food.

One way to prevent hepatitis is use of cooked food.

(ii) Avoid Smoking

To prevent hepatitis, one should avoid smoking and drinking alcohol.

(iii) Vaccination

These are now vaccine available to prevent hepatitis.

(iv) Preventive Measure While Making Contact

One should take preventive measures whil making physical contact with person.

(v) Use of Steolized Equipments

In hospitals, one should use steplized equipments such as razors to avoid transfer of hepatitis.

←——→

(b) **Methods of Food Preservation?**

Food preservations methods are used from long time to store food. Following are method.

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(i) **Drying:**

Drying is ancient method to preserve food. In this method, food becomes dry via sunlight or heating to remove water content in order to avoid spoilage.
e.g Apricots

(ii) **Canning:**

Another food preservation method is canning. In canning, food is stored in big containers that are sealed and no air can enter into it.

(iii) **Fermentation:**

Fermentation is widely used food preservation method in which milk is converted into yogurt. The bacteria in food caused fermentation.
e.g yeast

(iv) **Salting:**

Salting is another method to preserve food. The salt on food does not let grow virus and bacteria to spoil food.

(v) **Dehydration:**

Dehydration involves removal of water moisture from food by heating

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food to prevent grow of bacteria or viruses. The heating is done by sunlight or fire.

c) **Fertilizers:**

→ **Definition:**

Fertilizers are compands that added into soil to enhance efficiency of soil for productivity.

Fertilizers are rich in mainly of nitrogen, pottasium and phosphorus which are required to the soil for productivity.

→ **Types of Fertilizers:**

Following are types of fertilizers.

(i) Direct Fertilizer

Direct fertilizer are those fertilizer which added directly into soil and they enhance efficiency of soil. e.g Phosphate

(ii) Indirect Fertilizer

Indirect fertilizer are those fertilizer which enhance the efficency of soil by enhacing crop yied

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in a result.
e:g dolomite

(iii) Mixed Fertilizer

Mixed fertilizer are those fertilizers which containg mixed basic components such as nitrogen, pottasium or phosphorus.

(iv) Incomplete Fertilizer

Incomplete fertilizers are those fertilizer which containg not all required components for soil efficiency.

(v) Complete Fertilizer

Complete fertilizers are those fertilizer which consists of all required components.
e.g Urea

(vi) Micro Fertilizer

Micro fertilizers are required in very small amount to soil for proper functioning of the soil.

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d) **Anatomy of Tooth?**

Tooth are the chewing structure of mouth that helps in chewing and tearing food. The structure of tooth is as follows:

(i) **Enamel:**

Enamel is the outermost covering of tooth. It is hard and whitish in colour. It helps in chewing of food. It also protects inner layers from bacteria.

(ii) **Dentin:**

Dentin is present below the enamel. It is hard mineral materia as human bone.

(iii) **Pulp:**

Pulp is the cavity present behind dentin. It provides nourishment to the teeth as it contains blood vessels. It senses temperature.

(iv) **Cementum:**

Cementum is present beneath pulp and it helps teeth to anchor with roots.

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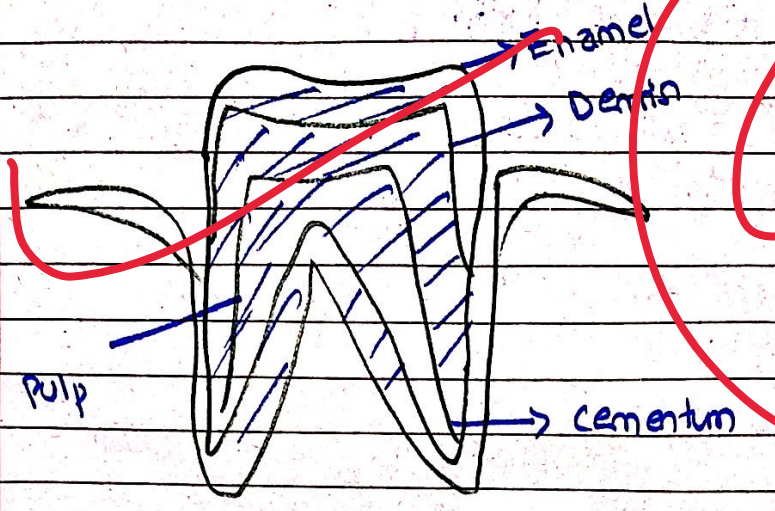

Q.3a) Structure of Sun?

Sun is the main energy source on the earth. It produces energy by fusion process.
The structure of Sun is as follows:
There are three layers of Sun.

(i) The Core
(ii) The Convective zone
(iii) The radiative zone

→ **The Core :**

The core is extremely high temperature zone of the Sun. The fusion process is carried

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out here. Here temperature ranges to millions celcius. It acts as engine house of the sun.

→ **The Convective zone:**

Above the core, there is a convective zone. The energy transfered here from the core. It has photospores and chromospores. These are flare of lights coming from the core into this zone. It has less temperature as compared to the core.

→ **The Radiactive zone:**

It is the outermost layer of sun. The energy transfered here via radiations. It has small density and high volume upto $\frac{1}{3}$rd of the sun. Radiations here scatter into the atmosphere. Also, it has least temperature as compared to other two zones.

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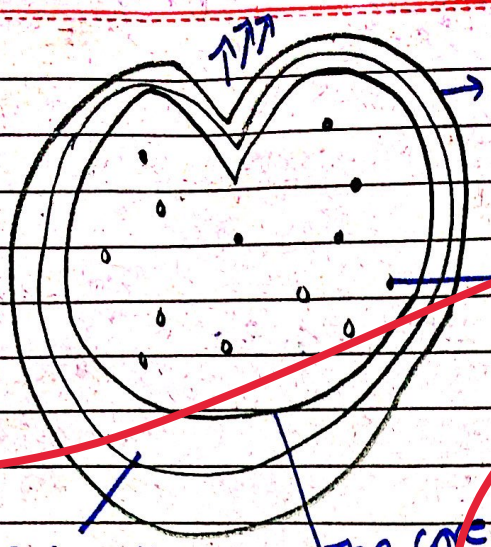

b) Tsunami?

→ **Definition:**

Tsunami is a natural disaster that caused due to underwater volcanic activity. Tsunami is a word derived from Japanese language which means large harbor wave.

Tsunami is a large wave that move from sea body to sea shore in a speed of 700km/h from crest to crest.

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→ How Tsunami is Generated:

Tsunami is generated by following factors.

(i) **Volcanic Activity**

The underwater volcanic activity leads to Tsunami. The movement of tectonic plates causes water body to move.

(ii) **Nuclear Explosion**

The nuclear explosion underwater causes displacement of larger volume of water.

(iii) **Oceanic Currents**

The oceanic currents also generate tsunami as they can displace water body.

(iv) **Landslide**

The submerge of landslide into the water causes displacement of water bodies.

(v) **Burst of Dams**

The bursts of dams cause movement of water by shaking.

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→ **Recent Tsunamis :**

Following are recent tsunamis in the world.

(1) Hung-Tung-2022 in Pacific Ocean
(2) Sumatra Tsunami in Indonesia
(3) Tsunamin in Japan in May-2024

⟷

c) **Environmental Pollution?**

→ **Definition :**

Environmental pollution is define as any harmful object or pollutants that are detrimental to the environment are called environmental pollution.

Environmental pollution can be of following types.

a) Water pollutants
b) Air pollutants
c) Soil pollutants

→ **Sources of Environmental Pollution:**

There are two sources of environmental pollution.

i) Primary Source

The pollutants that comes directly from the pipe source.

e.g CO_2, CO

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(ii) **Secondary Sources**

The pollutants that comes from the primary source and react with atmospheric gases.

e.g Ozone

→ **Harmful Impacts of Environmental Pollution:**

Following are the harmful impacts of environmental pollution.

(i) **Spoilage of Water Sources**

The environmental pollution causes spoilage of water sources by mixing with it.

(ii) **Leads to Air Pollution**

Environmental pollution leads to air pollution which are damage to respiratory system.

(iii) **Damaging of Lands**

The dumping of pollution on land are damaging the cultivated lands.

(iv) **Deteriorating Health Effects**

The environmental pollution leads to deteriorating health effects for human such as damaging of respiratory system, eye disease, weak immune system.

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(v) **Formation of Smog**

The environmental pollution leads to formation of smog. The gases react with smoke to reduce the ability of visibility.

→ **Few Measures to Curb:**

Following are few measures to curb environmental pollution.

(i) **Recycling**

One method to curb environmental pollution is recycling. It involves reusing of used materials.

(ii) **Reusing**

Reusing is a sustainable approach to curb environmental pollution by reusing materials.

(iii) **Filteration of Industrial Drain**

There should be mechanism of filteration of industrial drains to avoid water pollution.

(iv) **Dumping of Land Pollution**

There should be dumping of land garbage. The pyrolysis technique, composite should be used to avoid open dumping.

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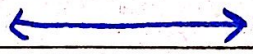
v) Usage of Quality Fuel

To avoid air pollution, the quality should be used in transportation sector.

(vi) Plantation Drives

There is a need of plantation drives to enhance green space. It will help in curbing environmental pollution.



d) Satellite?

→ Wireless Communication :

Wireless communication is a system of communication in which there is no physical contact of source and receiver. The communication is carried out by signals. e.g Mobile phones. There is a tower which receive and send signals between receiver and sender via modulation technique.

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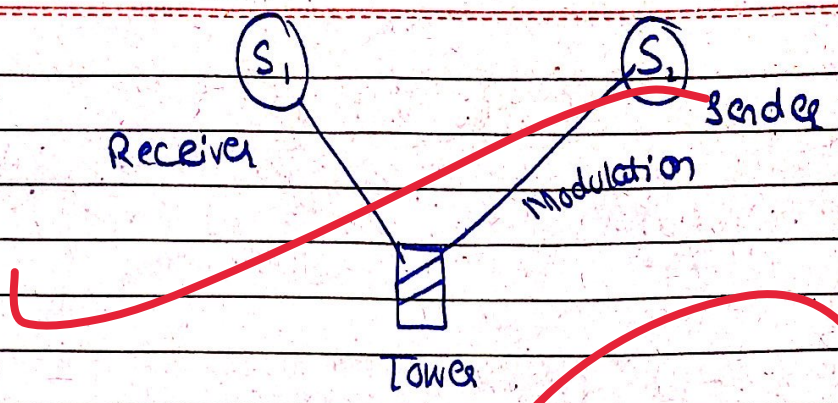

→ **Working of Satellites :**

Satellites are natural or manmade objects that orbits around the earth. The satellites are send to the atmosphere's orbit on rocket. The revolve around the orbit by the help of centrifugal force which is balanced by the gravitational pull of the earth.

The satellite sends singals to the earth. Here, the receivers receive the signal. It calculates the time when it sends the signals and when it receives the signals to measure exact position of satellite.

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Part - II

Q.6

(c) Solution:

The diameter of circle = 6 cm

Circumference = ?

Area of circle = ?

As we know that,

$C = 2\pi r$

where r = radius

or radius is half of the diameter of circle

So,

$C = 2 \times \frac{22}{7} \times 3$

$C = 18.84$ cm

To find area of circle,

$A = \pi r^2$

$A = 3.14 \times (3)^2$

$A = 3.14 \times 9$

$A = 28.2$ cm

(d) Identify the missing?

(i) 13, 24, 46, 90, 198, 222

(ii) 5, 6, 9, 14, 21, 32

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9) Three digit number sum = 15
The 3 digit numbers are

= 375

As sum of 10th and unit digit = 12
and difference = 2

Explain complex concepts in simple terms.
Use real-life examples
Include diagrams and flowcharts to for earning good grades.
Discuss practical applications of scientific concepts.

Show all steps and working for calculations.
Use diagrams and graphs to illustrate concepts.
Carefully understand the question