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LMS ID 33581

MOCK EXAM 6

General Science & Ability

Part - II

SECTION-I

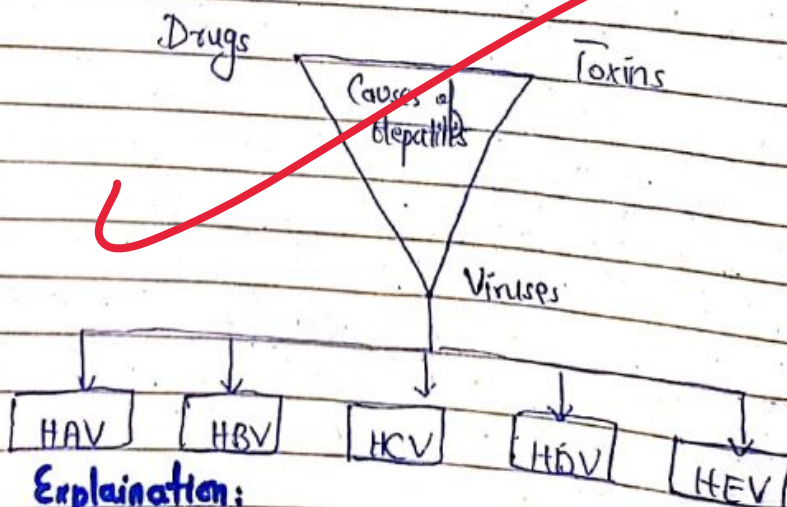
Q No 4

a. What is hepatitis? Explain its causes, symptoms and prevention.

Hepatitis:

Hepa means Liver and itis means inflammation. So, it means hepatitis is the inflammation of liver. It is mainly caused by the help of the dozens of drugs and viruses that effects body and cause inflammation of liver.

Causes:



Explanation:

Hepatitis is mainly caused by the

inappropriate use of toxins and drugs that produces virus in the body. It further contributes to diseases like HAV, HBC, HEV, HDV etc.

Symptoms:

As we know there are many types of hepatitis so according to type of hepatitis and patient it may vary. But most commonly symptoms that appears are

- Fatigue
- Jaundice
- Abdominal pain
- Loss of appetite
- Loss of weight

Preventions:

Preventive measures are taken according to the type of hepatitis. Hepatitis A, B, D, and E patient have to take preventive measure such as

- Avoid used syringe
- Take care of their Hygiene
- Blood safety measures etc.

Treatment:

All kind of drugs and medical treatment is available. Hepatitis A, B, D, E does not require any proper treatment they recover by their own. Hepatitis C require treatment and drugs are available to treat Hepatitis C.

b. Elaborate a few methods of food preservation.

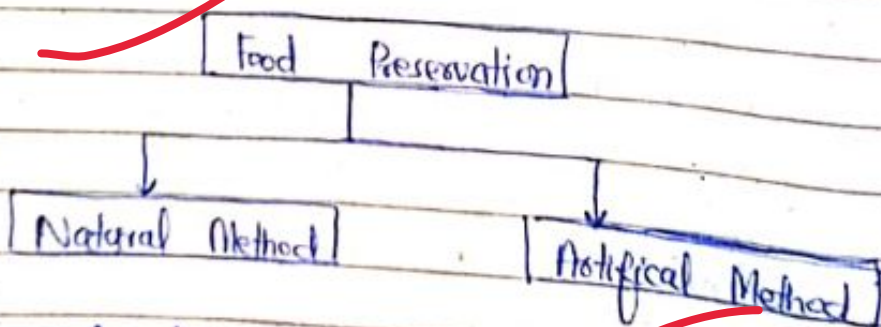
Food preservation:

Food preservation is a technique in which food is stored for a long period of time. Usually, after some time food become tasteless, colorless and spoiled to keep food for a long period technique is used which is called food preservation.

"A chemical substances are added into food to slower down the production of microorganism that causes harm to food." It is called food preservation.

Method of Food Preservation:

Food preservation methods are divided into two types



① Natural Method:

In natural method acid based substances are added into food so that no bacteria could be produced.

For Example:

Sun light : fruits, vegetables are dried in the sun light to preserve fruits and vegetables for long period of time.

Salt : Salt also act as preservative in food. Salts have such composition that stops micro-organism such as bacteria and yeast to grow in food.

Oil : Oil is also used to preserve food for long period of time. In fact people used to make lachar and it stays for years because of the oil in it.

Vinegars : Vinegar is also used as a natural preservatives. It keeps fruits and vegetable preserve for long period of time.

② Artificial Method:

Artificial method is most commonly used in world wide. All the food items are preserved in through artificial method in large food factories.

For-example:

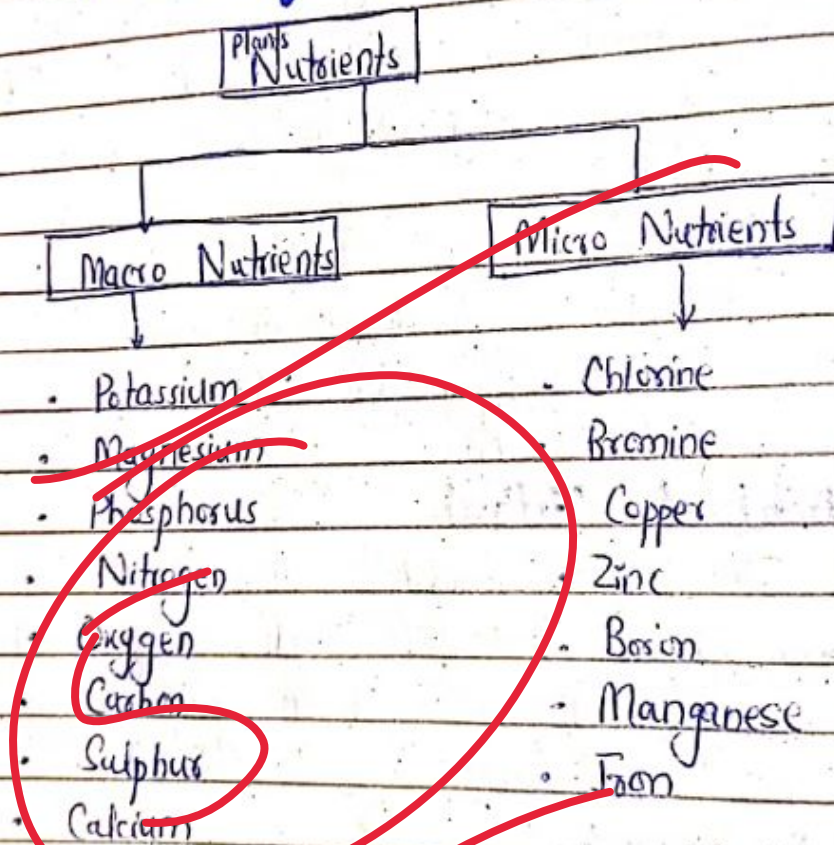
Cane : Special cane are used for preserving food. Everything is now available in the form of cane food.

Gas : Gases are used to preserve food. Nitrogen is used to keep food preserve for long period.

of time.
c. Explain fertilizers. What are their types?

Fertilizers:
Fertilizers are the chemical substances that are necessary for the plants for their proper growth. Soil requires proper nutrient for proper growth and production.

Nutrients for plants:



• Macro Nutrients

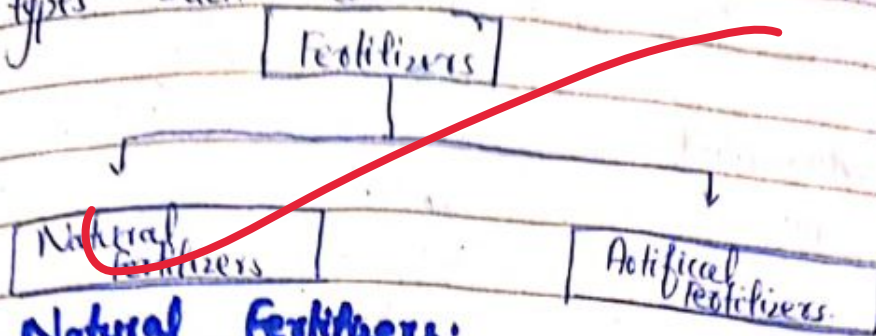
Macro Nutrients are those nutrients that are required in large quantity for plants for their proper growth.

• Micro Nutrients

Micro nutrients are those that are required in smaller quantity for the plants for their proper growth.

Types of Fertilizers

Fertilizers are divided into two types such as



• Natural Fertilizers:

Those fertilizers that are natural and helps plants for their proper growth. These are naturally occurred fertilizers.

For Example:

Animal waste / Animal Dungk, Salk lime etc.

• Artificial Fertilizers:

These are those substances that are mixed chemically to form a package of nutrients that helps plants in their proper growth.

For Example:

Urea, Am^monium nitrate, Am^monium phosphate etc.

Q No 5

a. Differentiate between a eukaryotic and a prokaryotic cell.

Eukaryotic and a prokaryotic cells have difference and they also have some similarities that are discussed in table as;

Differences:

Prokaryotic Cell	Eukaryotic Cell
<ul style="list-style-type: none">• Prokaryotic cell have simple structure.• They have no nucleus.• They are small in size.• They are uni-cellular.• They have no membrane-bound organelles.• Asexual reproduction.• They have circular DNA.	<ul style="list-style-type: none">• Eukaryotic cell have complex structure.• They have nucleus.• They are large in size.• They are multi-cellular.• They contain membrane-bound organelles.• Asexual and sexual reproduction.• They have linear DNA.

Similarities:

- Both have ribosomes
- Both have Cell membrane
- Both have DNA
- Both have Cytoplasm

b. What is global warming? What is Kyoto protocol?

Global Warming:

When the temperature of earth rises this is called as global warming. Earth consist of mechanism that regulates the temperature of earth. But due to human

industrial revolution it causes harm to earth natural environment. As a result, the temperature of earth started rising. Ozone layer helps earth to prevent from ultraviolet radiation. But ozone layer started breaking which allows ultraviolet radiation to reach earth and to increase the temperature. Therefore, we can say that Global warming is increasing temperature of earth.

Causes of Global Warming:

1. Deforestation

2. Melting of Glaciers

3. Green house Gases

4. Industrial Revolution

Preventive Measures:

To reduce the temperature of earth globally initiatives had been taken. Most important measures were

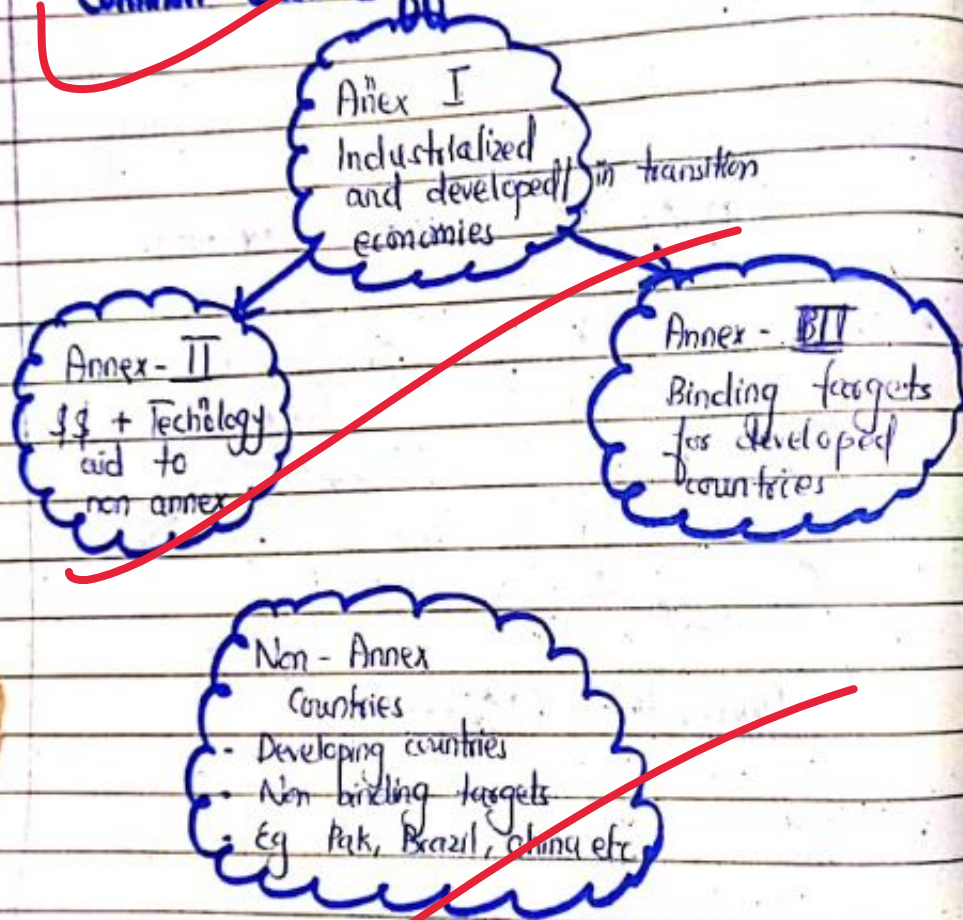
- Kyoto Protocol
- Montreal Protocol

Kyoto Protocol:

Kyoto protocol is an agreement/treaty signed among the countries to reduce Green house gases as they were causing harm to ozone layer.

It was agreed in 1997. This treaty came into force in 2005. Different responsibilities and mechanisms were set in this agreement to keep earth temperature low. Those initiatives were

Common But Differentiated Responsibility



Mechanisms:

- i) Emission Trading / Carbon Trading
- ii) Clean Development Mechanism.
- iii) Joint Implementation.

In Kyoto protocol major focus was to lower the Green house gases such that have ability to trap heat

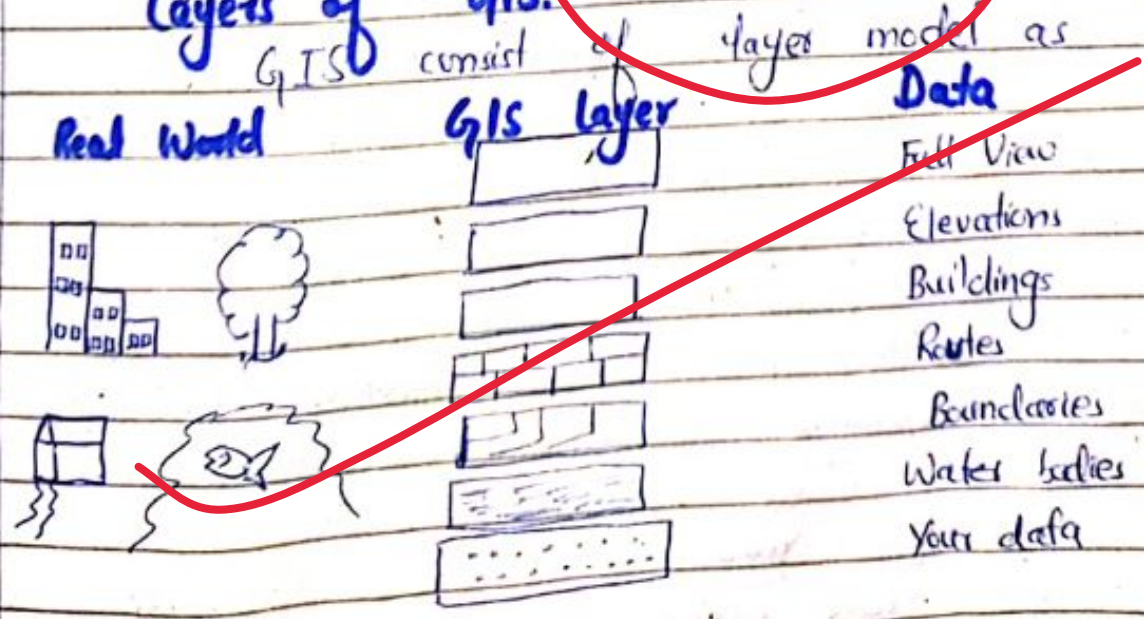
should be reduced by the countries that are in developing stage. GHG such as carbon dioxide, Methane, Nitrous oxide etc to lower down its production in the atmosphere using mechanism that are defined previous.

c. Write a detailed note on GIS,

GIS:

GIS stands for Geographic Information System. This is the process of gathering, acquiring, understanding, analysis of information with the help of modern technology. It is the system of acquiring, monitoring, analysis of computer based information for interpreting geographic information. GIS consist of model that have different layers - Each layer provide information related to specific area etc.

Layers of GIS:



Application of GIS:

GIS plays vital role in the environmental science in ways as follows

- ① It provides quick comparative view of hazards.
- ② It provide help in ^{early} evacuation of people before arrival of earth quake etc.
- ③ It helps in monitoring natural habitate and biodiversity hotspots.
- ④ It helps in conservation planning strategies.
- ⑤ It can be helpful in urban development by analyzing spatial patterns.
- ⑥ It provides detailed map of showing distribution of environmental features such as soil types, vegetation and pollution level etc.

d. Briefly describe antioxidants?

Antioxidants:

Antioxidants are the chemical substance that are used to ^{slow} / slows down the oxidation process in food items. Oxidation is the process that produces free radical leading to chain reaction that may damage and spoil products.

It causes rancidity in food that lead to loss of flavour, color change and nutrient degradation.

Purpose:

Antioxidant are used for the purpose to prevent food from oxidation process that led to spoilage of food.

Mechanism of Reaction:

It donate electron to neutralize free radicals e.g metal ions.

Examples:

- Vitamin A, E
- Vitamin BHA, BHT
- Rosemary extract.

Explain complex concepts in simple terms.

Use real-life examples to illustrate principles.

Include diagrams and flowcharts to illustrate processes.

Discuss practical applications of scientific concepts.

Show all steps and working for calculations.

Use diagrams and graphs