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Batch no 374

Mock paper GSA

Question No 4 Part B

## Food Preservation

Food preservation is the technique that is used to prevent food from spoilage, poisoning, and microbial contamination for a long time.

### Methods of Food Preservation:

Some methods for the preservation of food are:

#### 1- Freezing

In this method, the temperature of the food items is lowered by placing them in cold storage which helps in preventing the growth of microorganisms, like bacteria and fungi. Fish is usually transported from Karachi to other cities



by placing ice cubes in their storage

## 2- Vacuum Packing

In this method, food items are placed in a plastic bag. And the vacuum is created in the bag by removing the air containing oxygen and  $CO_2$  - the essential requirements for the growth of bacteria. It results in the death of microorganisms. This method is usually used for the preservation of dry fruits - the best source of food for astronauts.

## 3- Salting

The method implies the use of edible salt thrown over the food items. It, not only slows down the nourishment of bacteria but also deactivates the enzyme present in the tissues. Meat in farsighted areas where there is no light and other techniques of preserving food is not applicable.

## 4- Canning and bottling

In this method, the already, cooked food items are stored in cans and



bottles are sealed. The partially cooked pulses are, usually, stored with the help of this method.

## 5- Burying in the ground

Food items are buried in the ground with no light, oxygen, and carbon dioxide. This hampers the growth of microorganisms. It is commonly used to preserve vegetables, like potatoes.



### Question No 4 Part A

#### What is hepatitis?

Hepatitis refers to an inflammatory condition of the liver.

#### Causes of Hepatitis:

Primarily, it is a viral disease. However, sometimes medication, drugs, toxins, and alcohol are also responsible for the autoimmune hepatitis - a disease that occurs when a human body makes antibodies against liver tissues.



# Symptoms of Hepatitis

Some of the common symptoms of hepatitis are fatigue, loss of appetite, high fever, nausea, vomiting and abdominal pain.

## Types of Hepatitis

Hepatitis is mainly classified into five categories:

- (i) Hepatitis A
- (ii) Hepatitis B
- (iii) Hepatitis C
- (iv) Hepatitis D
- (v) Hepatitis E

### (i) Hepatitis A:

(a) Hepatitis A was formerly called infectious hepatitis.

(b) Hepatitis A is mild viral liver disease caused by a non-enveloped RNA virus.

(c) It is transmitted through ingestion of contaminated food and water or through direct contact with an infected person.

(d) Its epidemics can be explosive and



Cause substantial human and economic loss

(e) Almost everyone infected with hepatitis A recovers fully with lifelong immunity. However, a very small proportion of hepatitis A patients die from it.

## • Preventive measures for Hepatitis A

Vaccines for hepatitis A are available. Moreover, safe water supply, food safety, improved sanitation, and regularly washing hands are the most effective ways to combat the disease.

## (ii) Hepatitis B :

(a) Hepatitis B virus was formerly called serum hepatitis.

(b) Hepatitis B varies from acute to chronic liver disease and is caused by a DNA virus.

(c) The virus is mostly transmitted to a person through contact with the blood or other body fluid of an infected person.

(d) An estimated 240 million people are chronically infected with hepatitis



B More than 700,000 people die every year due to complications of hepatitis B. Besides, it also causes cirrhosis (liver fibrosis or dysfunctional liver) and liver cancer.

(e) It is a major occupational hazard for health workers.

### • Preventive Measures for hepatitis B

It can be prevented by currently available vaccines. Moreover, avoiding using syringes, safe sex practices and implementing blood safety strategies can help in the prevention of Hepatitis B.

### (iii) Hepatitis C :

(a) Hepatitis C was formerly called non-A non-B Hepatitis.

(b) Like hepatitis B, hepatitis C virus is also an acute to chronic hepatitis infection caused by RNA enveloped virus.

(c) It is a blood-borne disease that is mostly transmitted through unsafe injection practice, inadequate sterilization of medical equipment, the transfusion of un-screened blood



and blood products, unsafe sex, and from an infected mother to her baby.

(d) A significant number of those who are chronically infected will develop liver e.g. cirrhosis or liver cancer.

(e) Globally, between 130 - 150 million people, have chronic hepatitis C infection, and approximately 700,000 people die from hepatitis C-related liver disease.

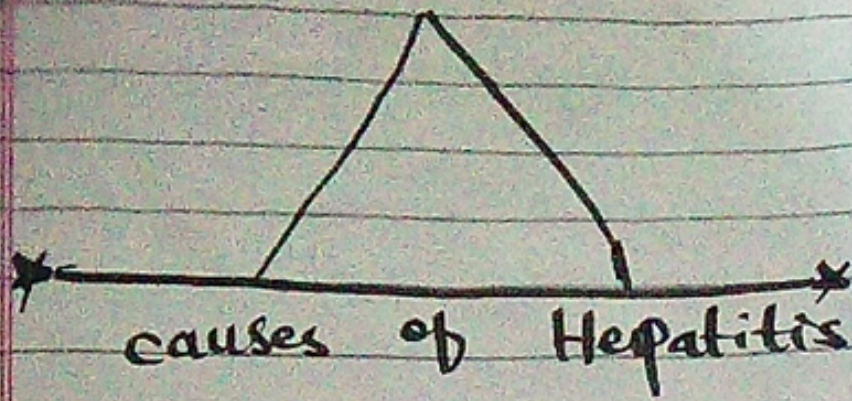
### • Preventive Measures for Hepatitis C

currently, there is no vaccine available for hepatitis C. However, implementing blood safety strategies, such as quality assured screening of all donated blood, can help prevent the transmission of Hepatitis C.

Similarly, safe sex practices and proper disposal of used syringes can be effective strategies to protect against transmission.

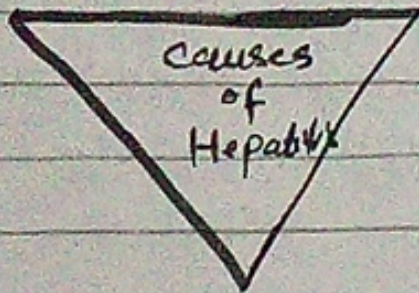




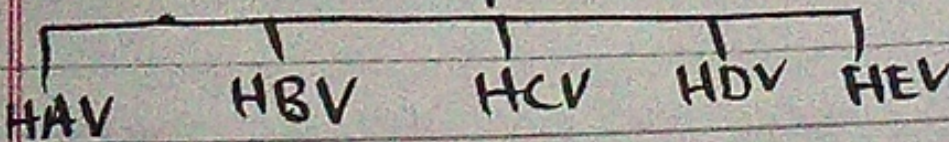


Toxins

Drugs



viruses



## Hepatitis viruses

