

# QUESTION # 3

## PART # a

What are pesticide? Explain their different types. Why persistent pesticide are more lethal for mankind.

## Pesticide :-

According to Environmental Protection

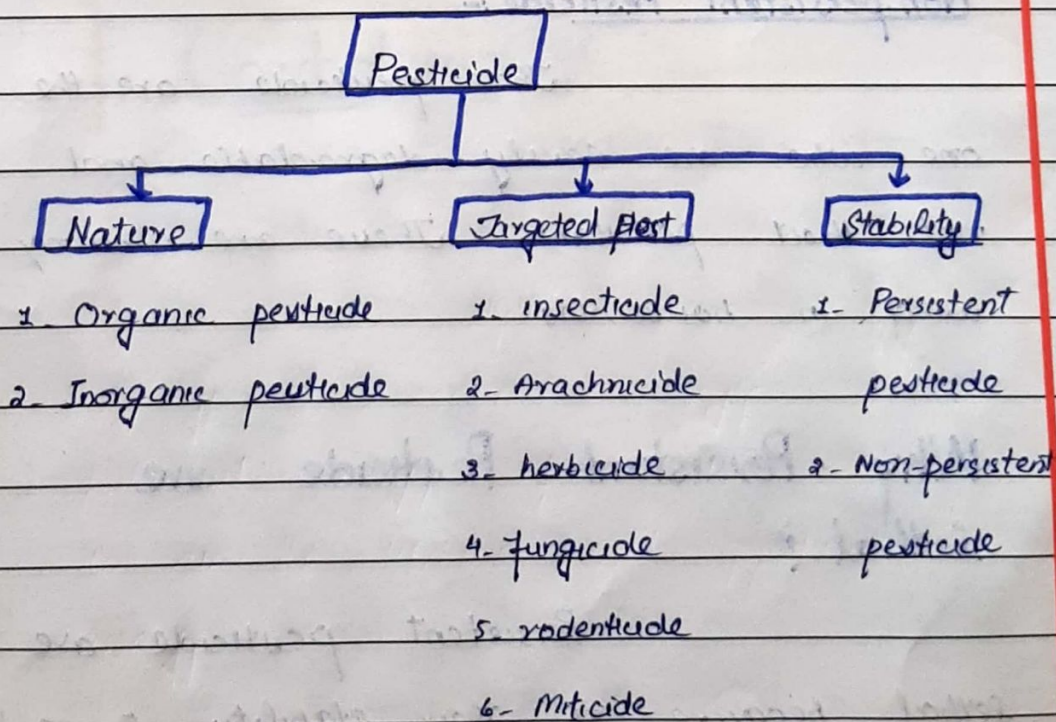
Agency (EPA):

A pesticide is any substance or mixture of substances which intends on preventing, destroying, repelling or mitigating any pest.

Common examples of pesticide are DDT, permethrin, glyphosphate.

## Types of Pesticide :-

Pesticide can be classified on the basis of their nature, targeted pests and their stability



## Types of Pesticide on the basis of stability :-

On the basis of stability, pesticide can be classified into persistent pesticide and non-persistent pesticide.

### Persistent Pesticide :-

These pesticide are the group of pesticide which are persistent and do not degrade easily and early. Usually these pesticides are organochloride pesticide.

DDT (dichloro diphenyl trichloro ethane) is a common example of persistent pesticide.

### Non-persistent Pesticide :-

These pesticide are the one who are easily degradable and not that persistent. These are commonly used in households.

## Why Persistent Pesticide are lethal ?

Persistent pesticide are lethal because of their stability. Owing to their stability, persistent pesticide

stays in the system for long and can easily enter into the food chain.

There, they can increase themselves through biomagnification and become lethal to life.

Their stability and thus biomagnification makes them lethal than the non-persistent pesticides.

## PART # B

What are carbohydrates? Classify and give detail of each class with examples.

## Carbohydrates :-

Carbohydrates are polyhydroxy aldehyde or polyhydroxy ketone. These are the biomolecules which provide 3.9 cal energy per gram. These provide immediate source of energy and store energy too. These form the structure of cell wall and cell and are much important for the biological life to exist.

# Classification of Carbohydrates :-

Carbohydrates can be classified into following classes:

- i. Monosaccharide
- ii. Oligosaccharide
- iii. Polysaccharide

## Monosaccharide :-

Monosaccharide are simple carbohydrates who maintain their identity when hydrolysed and do not divide into any units. Monosaccharide are sweet in taste and are known for their being immediate source of energy.

Monosaccharide are further divided into/ classified into sub-classes. Their classification is done on the basis of number of carbon present.  $C_n(H_2O)_n$  is a general formula for monosaccharide. Monosaccharide form ring structure.

## Example

Common example of this class are glucose ( $C_6H_{12}O_6$ ), galactose, fructose.

## Oligosaccharides :-

Oligosaccharides are those carbohydrates which give 2 to 9 monosaccharide sub-units when hydrolyzed.

On the basis of the given units, oligosaccharides can be classified into disaccharides, trisaccharides and so on. Monosaccharides combine to form oligosaccharides. These are stable and usually found in homes.

### Example

Table sugar (sucrose), maltose and lactose are their known examples.

Sucrose, on hydrolysis, gives fructose and glucose; while, lactose gives glucose and galactose.

## Polysaccharides :-

Polysaccharides are the carbohydrates which give more than 9 monosaccharide units on hydrolysis. These are further classified into homopolysaccharides and heteropolysaccharides. General formula for polysaccharides is  $(C_6H_{10}O_5)_n$ .

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## Example

General examples of the polysaccharides are starch, glycogen, hyaluronic acid, chondroitin, and hyaluronic.