

Day:

# Assignment 1

Date: / /

## 1) Topic:- Carbohydrates:-

### Definition

Carbohydrates or Carbs are Sugars, Starch and dietary fiber that are Present in different foods. The body break them into  $\alpha$  glucose to Provide us energy in order to Perform different functions.

### Examples:-

- Starch:-** Wheat, Oat, Corn, Potatoes and Dried beans contain Starch.
- Sugar:-** Sugar is Present in honey, bread, fruits, milk, Soda and cakes etc.
- Fiber:-** There is fiber in undigested part of fruits & vegetables.

### Characteristics of Carbohydrates:-

- Carbohydrates are chemical compounds that contain oxygen, hydrogen & carbon.
- They contain large quantity of hydroxyl group ( $\text{OH}$ ).
- The function of carbohydrates are short term energy storage.
- Their general formula is  $\text{C}_x(\text{H}_2\text{O})_y$ .

### Types of Carbohydrates

There are two types of carbohydrates

- Simple carbohydrates
- Complex carbohydrates

#### a) Simple Carbohydrates:-

$\rightarrow$  A body can easily digest simple carbohydrates. So they tend to increase blood sugar

level.

- Too much intake of simple carbohydrates leads to weight gain.
- They can also increase risk of diabetes, heart diseases & high cholesterol.

### Complex Carbohydrates.

- It takes time for body to break down complex carbohydrates so they will not increase blood sugar level.
- There are vitamins, minerals & fibers that our body need.

2)

## Topic: Lipids

### Definition:

Lipids are fatty compounds that perform different functions in our body.

- They can be dissolved in some bodily fluids but not in water.

### Example:

- Phospholipids
- Sterols
- Triglycerides
- Waxes.

### Characteristics of lipids:

- The characteristics of lipids are
- They are used for the transport of fat soluble vitamins A, D, E & K.
  - They are necessary for the insulation of vital organs of body.
  - They can be saturated or unsaturated.

## Types of lipids

### a) - Triglycerides:

These are the main form of lipids in our body. More than 95% of the lipids in diet are triglycerides.

### b) Phospholipids

→ Phospholipids are present in both plants and animals but they are just 2% of dietary lipid.

→ As phospholipids are also ~~consumed~~ synthesized by the body so they do not need to be consumed by body.

### c) Sterols:

→ The structure of sterols is different from triglycerides & phospholipids.

→ They are complex molecules that contain interlinking rings of carbon atoms, with side chains of carbon, hydrogen, and oxygen attached.

3)

## Topic: Proteins

### Definition

~~Proteins~~ Proteins are the combination of residues of amino acid & peptide bonds.

Examples: following are the examples

- Collagen
- Insulin
- Anticorps

### ~~Functions~~ Functions

- a) They help in healing & repairing process in body.
- b) They increase the immunity of body.
- c) They provide better defense system.

# Characteristics

→ Proteins are macromolecular Polypeptides.

→ Macromolecular Polypeptides are made up of several amino acids bound to the peptides.

## Types of Proteins

There are seven types of Proteins

a) Enzymes

b) Storage Proteins

c) Transport Proteins

d) Antibodies

e) Hormonal Proteins

f) Structural Proteins

g) Contractile Proteins