CARBOHYDRATES

A carbohydrate is a naturally occuring compound, or a derivative of such a compound, with the general chemical formula $C_x(H_2O)_y$, made up of molecules of carbon (C), hydrogen (H), and oxygen (O). Carbohydrates are the most widespread organic substances and play a vital role in all life.

Physiological importance of carbohydrates

* Carbohydrates provide energy and regulation of blood glucose.
* It will prevent the degradation of skeletal muscle and other tissues such as the heart, liver and kidneys.
* It prevents the breakdown of proteins for energy.
* Carbohydrates also help with fat metabolism. If the body has enough energy for its immediate needs, it stores extra energy as fat.
* Carbohydrates are an important component of many industries like textile, paper, lacquers and breweries.

* Carbohydrates form a part of genetic material like DNA and RNA in the form of deoxyribose and ribose sugars.
* Carbohydrates is basically the main fibre of the diet or provide the bulk fibre for better digestion.
* Carbohydrates help clear gut and prevent constipation.
* Starch is a form of food is stored in plants. It provides sweetness to foods.
* Pectine and Hemicellulose are the structural carbohydrate in plant cell walls.

PROTEIN

*Protein is a chain of amino acids joined by peptide bonds in a specific sequences.

*Protein is an essential nutrient. There is no life without protein. protein is contained in every part of your body. Next to water, protein is the most plentiful substance in your body.

Physiological importance of protein.

*Protein is vital in the maintenance of body tissue, including development and repair.

*Protein is the major source of energy.

* Protein is involved in the creation of some hormone, help control body functions that involve the interaction of several organs and help regulate cell growth.
* Protein produces enzymes that increase the rate of chemical reactions in the body.
* Protein transport small molecules through the organism. Hemoglobin is the protein that transports oxygen to the cells and it is called as transport protein.
* Proteins called antibodies help rid the body of foreign protein and help prevent infections, illnesses and diseases.
* Protein help store other substance in the organism.

LIPIDS

Lipids can be more formally defined as substances such as a fat, oil or wax that dissolves in alcohal but not in water. Lipids contain carbon, hydrogen and oxygen but have far less oxygen proportionally than carbohydrates. Lipids include fatty acids, neutral fats, waxes and steroids.

Physiological importance of lipids

* Energy source and help in transportation.

* Lipids are good source of energy and provide large amount of energy. It provide 9 Kcal/g approximately 38 Kilojoules/g fat utilized.

* Lipids in food also act as carrier of fat-soluble Vitamins.

* Lipids also make the food more palatable and serve to decrease its mass.