2. Digestion

The preparation of food for use by the body cells is called digestion. It is essentially a refining process. A useful conception may be obtained by considering the purposes of digestion:

a. Mechanical: To break up the food into small particles. Accomplished by mastication and movements of stomach and intestines.

b. Physical: To dissolve or suspend particles in a semi-liquid. Accomplished by secretions of alimentary system with assistance of hormones and secretogogues.

c. Chemical: To break up complex molecules of proteins, fats and carbohydrates and by recombination making them acceptable for assimilation by the body cells. This is accomplished through the various enzymes.

3. Anatomy of Alimentary or Digestive System

Alimentary canal is essentially a tube running through the body and lined by a vascular membrane, a large part of which is specially adapted for absorption. The tube is strengthened by muscular fibers. In the walls of the intestines are numerous glands, blood vessels,and lymphatics. Connected with alimentary tube are some larger glands whose function it is to pour the digestive juices into the canal.

Subdivision of alimentary canal:

(1) Mouth
(2) Pharynx or throat
(3) Esophagus
(4) Stomach
(5) Small intestines
(6) Large intestines

Glands - The large glands which form an essential part of the digestive system are:

(1) Salivary glands
(2) Liver
(3) Pancreas

(Note: Student is expected to look up the anatomy and physiology of the digestive system. See references at end of Section on Nutrition.)

4. Stages of Digestion

a. Mouth Digestion: Or better a mixture of the food with secretions as preparation for salivary digestion. Importance of mastication.

Saliva: Supplied by three pairs of glands: parotid, sublingual, and submaxillary. Character and amount. Content and action of enzyme, Ptyalin.

Swallowing: A complex procedure involving a voluntary stage. Bolus of food is crowded back into the pharynx by the tongue where it is grasped by involuntary muscles and pressed on by peristalsis.