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**18/MHS01/272**

**BIOMEDICAL ENGINEERING**

**ANA 226(HUMAN ANATOMY) ASSIGNMENT**

The food (fried rice, salad and fried chicken) is taken through the mouth(ingest); teeth present in the mouth helps to masticate the large food molecules into smaller pieces.

Salivary gland in the mouth secretes saliva that begins the digestion of cooked starch (rice). The enzymes ptyalin is found in the saliva. Food present in the mouth is mixed by the tongue and rolled into bolus which is swallowed. During this process of swallowing the epiglottis covers the trachea, it allows the food to enter into the oesophagus (gullet). The gullet sends the bolus down the stomach by the process called peristalsis. Food in the stomach is mixed by the churning action of the muscular walls of the stomach. The food is broken into much smaller molecules by gastric juice. This juice contains two enzymes (pepsin and renin) and hydrochloric acid[HCl]. Pepsin digests proteins (fried chicken) to polypeptides while renin causes coagulation of milk into thick curds. At this time, the food in the stomach is creamy and referred to as chyme. Food is retained in the stomach for 3-4 hours.

 The small intestine is made up of three parts; duodenum, ileum, jejunum. In the duodenum, pancreatic juice is secreted. The liver also produces bile stored in the gall bladder. The pancreatic juice contains 3 important enzymes;

* Amylopsin(amylases) breaks down starch (the rice) to maltose.
* Trypsin-breaks down protein (the chicken) to polypeptides.
* Lipase-breaks down fat to carboxylic acid and glycerol.

 Chyme leaving the duodenum becomes watery and it is referred to as chyle. In the ileum, intestinal juice is produced to complete the process of digestion. Enzymes in the intestinal juice include;

1. Maltase-changes maltose to glucose.
2. Erepsin-changes polypeptide to amino acid.
3. Lipase-changes fats to carbohydrate and glycerol.
4. Lactase- changes lactose to glucose and galactose.
5. Sucrase- changes sucrose to glucose and fructose.

Absorption takes place in the small intestine. The walls of the small intestines have folds and furrows; this surface area is increased by small tiny finger-like projections called villus(villi).

The inner surface of the villus allows the absorption of end products either by diffusion or active transport through it.