#DIGESTION AND ABSORPTION OF FOOD

-Digestion is the conversion of complex insoluble food materials into simple and absorbable form
-includes mechanical processes such as mastication (chewing),deglutition (swallowing) & peristalsis (wave-like movement of food bolus through the gut by muscular contraction).

A)DIGESTION IN BUCCAL CAVITY

-@Salivary gland secretion does following functions-
1)control bacterial population in mouth
2)digestion of complex carbohydrates (only polysaccharides not disaccharides 3)lubrication of oral cavityOnly starch digestion*
-About 30% of starch is digested by ptyalin
-Nucleotides Nucleotidase Nucleosides
Nucleosides Nucleosidase Sugars + Bases
Diglycerides, monoglycerides Lipases Fatty acid + Glycerol

#In large intestine, there is no significant digestive activity.
The functions of large intestine are:
a. Absorption of water, minerals and certain drugs.
b. Secretes mucus for adhering waste (undigested) particles
Starch Salivary amylase
pH 6.8
Maltose + Isomaltose + limit dextrins
together and lubricating it for an easy passage.
Fully digested semi fluid and alkaline food formed in small

B)DIGESTION IN STOMACH

-Stomach stores food for 4-5 hrs
-It is mixed with gastric juice by the churning movements and is converted into acidic pasty form (chyme)

Pepsinogen (inactive)
HCl
Pepsin (active)
Protein
Pepsin
Proteoses + Peptones (peptides)
Prorennin (inactive)
HCl Rennin (active)
intestine is called chyle.

Ca paracaseinate (curd)
Calcium paracaseinate Pepsin Peptones
Only in
infants
Absorption is the transfer of end products of digestion
through the intestinal mucosa into blood & lymph.

It is 2 types- passive and active.
a) PASSIVE ABSORPTION(Passive transport): Absorption of
nutrients from higher concentrated region to lower
The gastric lipase hydrolyses a small amount of lipids.
[Diffusion is 2 types:

i.SIMPLE DIFFUSION
- In this, molecules alone can be
diffused.
-E.g. Small amounts of monosaccharides like glucose, amino acids, vitamins, electrolytes like Cl- etc.

ii. FACILITATED DIFFUSION
-Diffusion with the help of
carrier proteins.
-E.g. glucose, amino acids etc.

b) ACTIVE ABSORPTION (Active transport):
-Absorption of nutrients from lower concentrated region to higher
concentrated region (i.e. against concentration gradient).
-It needs energy.
-E.g. absorption of amino acids,monosaccharides like glucose, electrolytes like Na+ etc.

ABSORPTION OF LIPIDS
- Monoglycerides, diglycerides and fatty acids cannot be absorbed directly as they are insoluble in water.

PROTEINS
Trypsin/Chymotrypsin
- Bile salts and phospholipids convert them into small Peptones ,Dipeptides
spherical water-soluble droplets called micelles.
Proteoses
Carboxypeptidase
- They are reformed into small protein coated fat globules
Fats Lipases Diglycerides Lipases Monoglycerides
Nucleic acids Nucleases Nucleotides