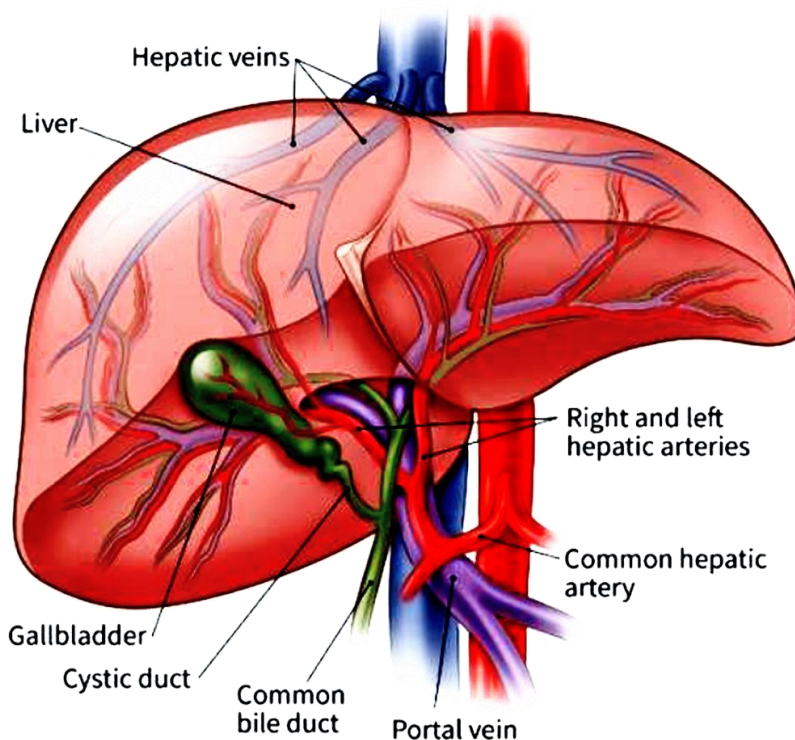


## In Duodenum

- Hormones**                      **Stimulates secretion of**
1. Cholecystokinin → Bile from gall bladder or liver
  2. Pancreozymin → Pancreatic juice (enzymes)
  3. Secretin → Pancreatic juice with higher salt ratio.
  4. Enterocrinin → Succus entericus from intestinal wall.
  5. Enterogastrone → Inhibits the activity of stomach.



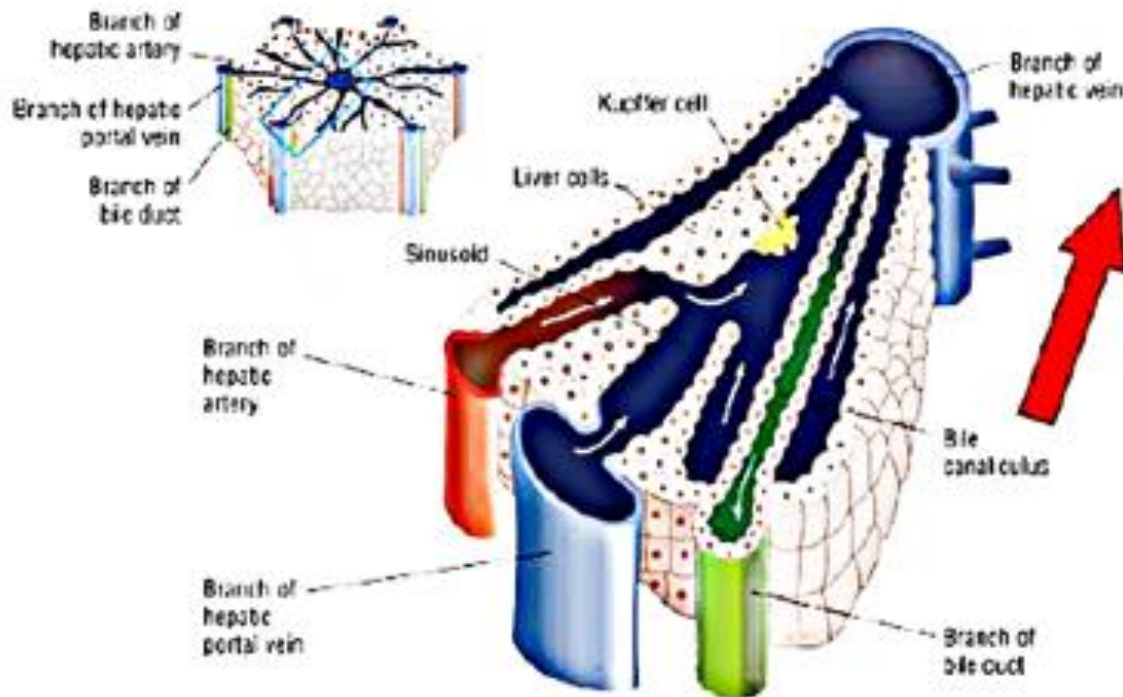
## BILE

0.5 to 1 litre

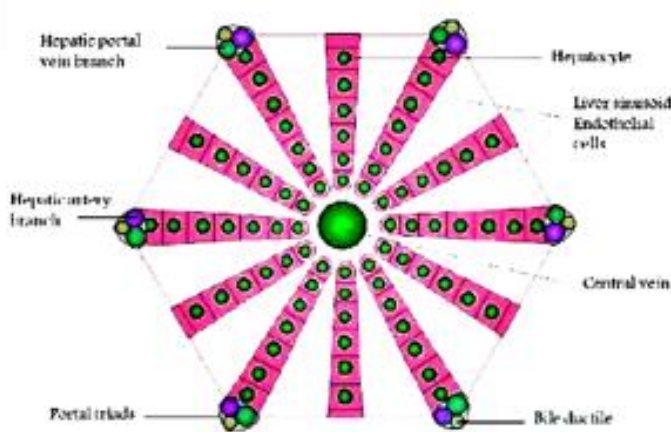
pH = 9.0

Sphincter of Oddi

Function:



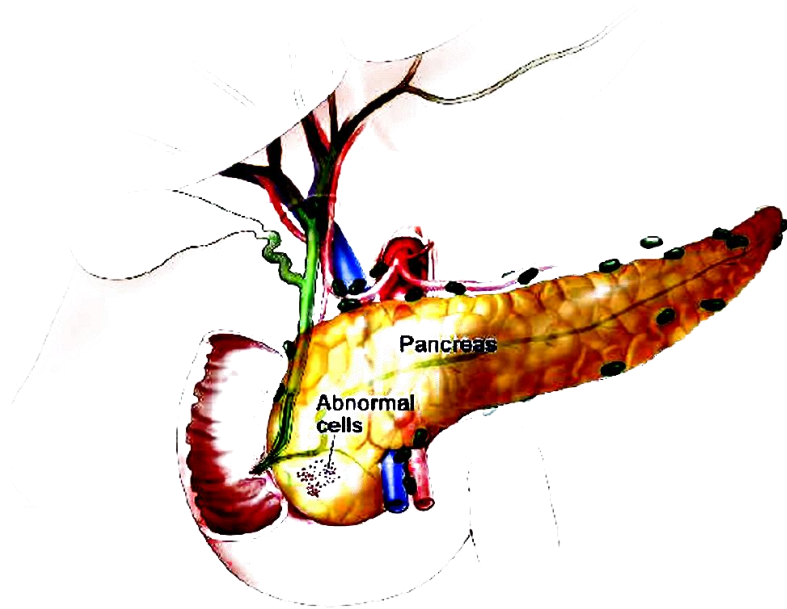
### Hepatic Lobule



## CHYLE

**Emulsification (saponification)**

**absorption of Vit A, D, E; kills germs**



## **Pancreatic Secretions**

Mainly  $\text{HCO}_3^-$  and  $\text{Cl}^-$ ,  $\text{Na}^+$  and  $\text{K}^+$ .

→ trypsinogen Enterokinase

(Enteropeptidase)

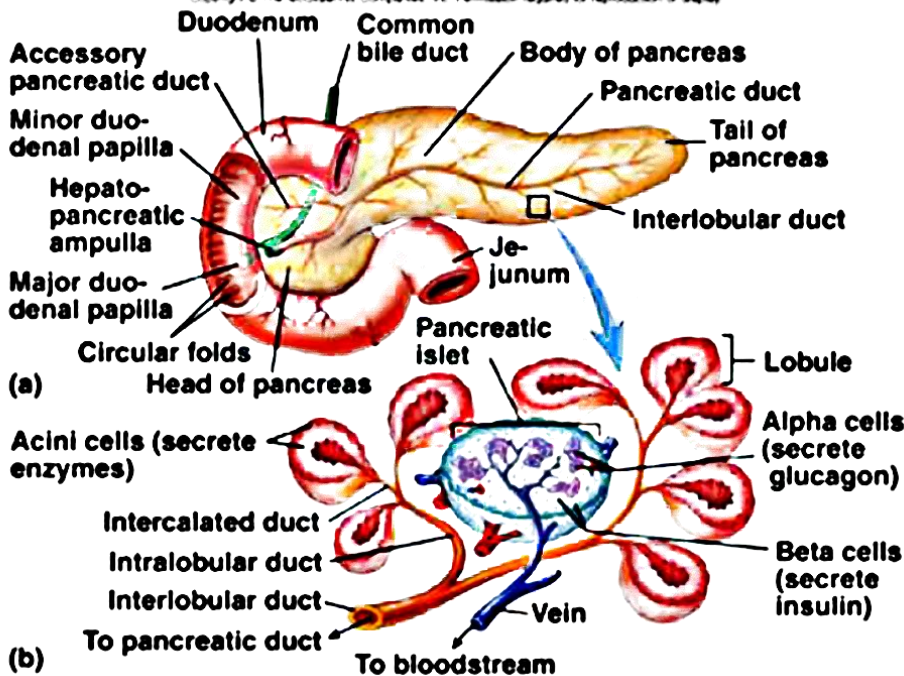
Trypsin-- oldest known enzyme-- first enzyme to evolve in animal kingdom;

Chymotrypsin

Amylopsin

Steapsin-- Pancreatic lipase

Carboxypeptidase



### In small Intestine

***Succus entericus***--- Erepsin---- protein into amino acids

Glycosidases---- disaccharidase—Sucrase--  
- glucose + fructose

Lactase-- lactose into galactose + glucose

Maltase-- maltose --- glucose + glucose

Intestinal Lipase breaks lipid----- glycerol + fatty acids

In old age ----shortage of lactase-----  
formation of intestinal gases, alcohols and acids to cause flatulence, intestinal cramp and diarrhoea.

Nucleosidase, Nucleotidase

**Q. A person is passing gray white faecal matter, What is not functioning properly in the body?**

**A. Kidney**

**B. Liver**

**C. Spleen**

**D. Pancreas**

**Q. Continued consumption of a diet rich in butter, red meat and eggs for a long period may lead to**

**A. vitamin toxicity**

**B. kidney stones**

**C. hypercholesterolemia**

**D. urine laden with ketone bodies**

**Q. DNase and RNase are enzymes secreted by**

**A. pancreas**

**B. stomach**

**C. gall bladder**

**D. intestines**

## **LARGE INTESTINE**

Chyle---- degraded into faeces by bacteria

### **Absorption of Food**

mainly in jejunum and ileum through villi and microvilli by both active and passive

No absorption occurs in stomach except that of ethanol (alcohol) & aspirin.

### **ABSORPTION OF GLUCOSE AND AMINO**

#### **ACIDS**

mainly by active transport

Entry of glucose in the cell is coupled with  $\text{Na}^+$  where it is immediately phosphorylated

Galactose is absorbed like glucose

Fructose and mannose are absorbed by facilitated diffusion

### **Absorption of Lipid**

Directly as lipid

as chylomicrons and micelles by pinocytosis in the crypts between villi

As glycerol and fatty acid---- Glycerol is soluble in both aqueous and lipid phases

## **EGESTION**

### **(EFAECATION OR DEFAECATION)**

#### **Stercobilin**

Foul odor of faeces is due to indole and

**Skatole**: by decarboxylation of amino acids  
by bacteria in colon.

Autocoprophagy (Pseudorumination or  
Refecation)

Consumes Its Own Faeces

Flatulence

In stomach most gases are  $N_2$  and  $O_2$ .

Q. Chylomicrons are

- A. undigested proteins
- B. undigested carbohydrates
- C. fat droplets coated with phospholipids
- D. fat droplets coated with glycerol and proteins



**Q. Enterokinase takes part in conversion of**

- A. Pepsinogen to pepsin**
- B. Trypsinogen to trypsin**
- C. Protein into polypeptides**
- D. Caseinogen into casein**

**Q. In case of taking food rich in lime juice,  
the action of ptyalin on starch is**

- A. Enhanced**
- B. Reduced**
- C. Unaffected**
- D. Stopped**

**Q. Lactase is found in**

- A. saliva**
- B. bile**
- C. Pancreatic juice**
- D. intestinal juice**

**Q. Sodium taurocholate aids in**

- A. absorption**
- B. defecation**
- C. assimilation**
- D. emulsification**



**Q. Brunner's glands are found in**

- A. Submucosa of stomach**
- B. Wall of rectum**
- C. Submucosa of duodenum**
- D. Mucosa of ileum**

**Q. Bilirubin and biliverdin are found in**

- A. Blood**
- B. Bile**
- C. Pancreatic juice**
- D. Saliva**

**Q. Marasmus is caused by**

- A. obesity**
- B. dwarfism**
- C. prolonged starvation**
- D. deficiency of vitamin**

**Q. Identify the correct set which shows the name of the enzymes from where it is secreted and substrate upon which it acts**

- A. Pepsin – Stomach wall – Caesin**
- B. Ptyalin – Intestine – Maltose**
- C. Chymotypsin – Salivary gland –Lactose**
- D. Ptyalin – Pancreas – Lipid**