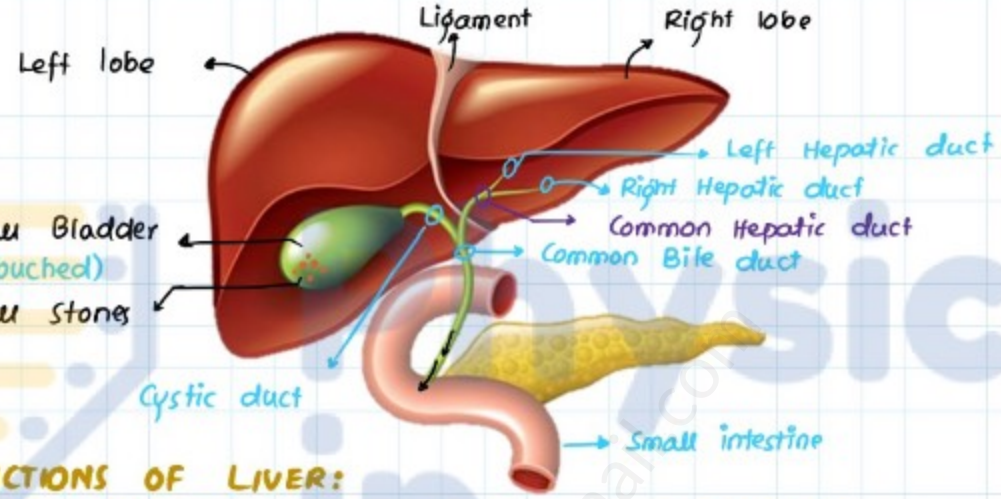
Accessory Glands/Liver and Pancreas

LIVER → largest internal Organ
largest gland

• Located below diaphragm



FUNCTIONS OF LIVER:

→ DETOXIFICATION
• Drugs + Endogenous Harmful Substances
+ Kupffer cells (Phagocytic)

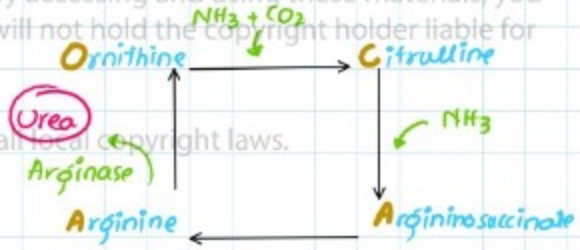
→ CARBOHYDRATE METABOLISM
• Glycogenesis (Glucose → Glycogen)
• Glucogenesis / Glycogenolysis
Glycogen → Glucose
• Gluco-neo-genesis
Protein/Lipids → Glucose

→ STORAGE
• Vitamins (A, D, E, K)
• Minerals (Iron, Copper)
• Glycogen

→ FAT METABOLISM
• Cholesterol metabolism

→ PROTEIN METABOLISM
• Amino Acid

• Urea cycle (CAAO)



BILE JUICE → Digestive system
Has no Enzyme (Enzymatic digestion) ×
• Emulsification of Fats (mechanical)

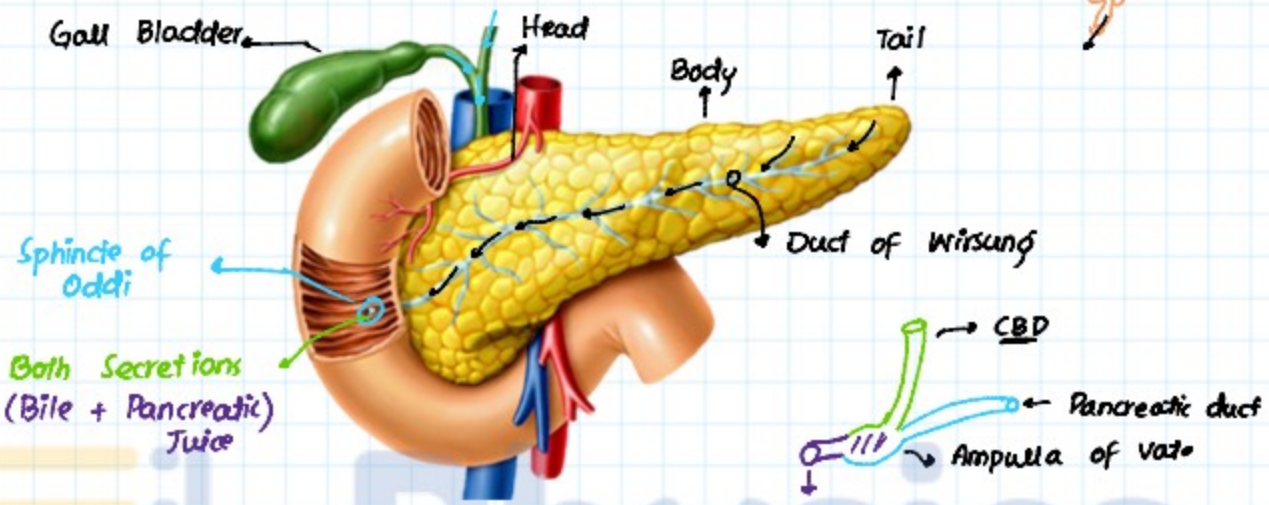
COMPONENTS:
• Water, Bile Salts (Na^+-salts), Bile Pigments (Bilirubin, Biliverdin)
• Cholesterol, Phospholipids (lecithin), Electrolytes, Cell debris

PANCREAS → Elongated Organ, Located besides duodenum
colour (light tan, Pinkish)

Exocrine (Acinar cells) — Endocrine (Islets of Langerhans)

Gall Bladder — Head — Tail

Exocrine (Acinar cells) Endocrine (Islets of Langerhans)



PANCREATIC JUICE → Alkaline pH (08)
(500 - 800 ml / day) → Colourless, Odourless

- Responsible for all types food content breakdown.

- Pancreatic Amylase (Amylopsin)

Starch / Glycogen → Maltose / Iso-maltose

- Pancreatic Lipase (pH 7 → 9)

Emulsified Fats → Fatty Acids + Glycerol

- Trypsinogen —E-K→ Trypsin

Proteins → Polypeptides + Peptones

- Chymotrypsinogen → Chymotrypsin
- $NaHCO_3$ (Neutralization)
- Procarboxypeptidase → Carboxypeptidase
- Nucleases
  - Deoxyribonucleases (Breakdown of DNA)
  - Ribonucleases (Breakdown of RNA)