

NEET Biology: Human Physiology

Advanced notes · Digestion to Endocrine system · with practice questions · NEET UG · Biology

1. Digestion and absorption

Enzyme	Source	Action
Salivary amylase (ptyalin)	Salivary glands	Starch → maltose (about 30% of starch in the mouth; optimum pH 6.8)
Pepsin	Chief (peptic) cells, stomach	Proteins → proteoses and peptones
Trypsin, chymotrypsin	Pancreas	Proteins/peptides → dipeptides
Pancreatic lipase	Pancreas	Fats → diglycerides, monoglycerides
Nucleases	Pancreas	Nucleic acids → nucleotides

- HCl is secreted by oxyntic (parietal) cells and gives a pH of about 1.8.
- Bile has no digestive enzymes; bile salts emulsify fats.
- Fatty acids and glycerol form micelles, then chylomicrons, which enter the lacteals of villi.
- Brunner's glands (submucosa of duodenum) secrete alkaline mucus.

2. Breathing and exchange of gases

Volume / capacity	Approximate value
Tidal volume (TV)	500 mL
Inspiratory reserve volume (IRV)	2500-3000 mL
Expiratory reserve volume (ERV)	1000-1100 mL
Residual volume (RV)	1100-1200 mL
Vital capacity (TV + IRV + ERV)	3500-4500 mL
Total lung capacity (VC + RV)	Vital capacity + residual volume

- About 97% of O₂ is carried by haemoglobin as oxyhaemoglobin; about 3% is dissolved in plasma.
- CO₂: about 20-25% as carbaminohaemoglobin, about 70% as bicarbonate, about 7% dissolved.
- The oxygen dissociation curve is sigmoid. It shifts right (lower affinity) with high pCO₂, high H⁺ (low pH) and higher temperature — the Bohr effect.

3. Body fluids and circulation

That was a preview.

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PREVIEW