

# Excretory System

These notes are your ultimate revision weapon to revise the Excretory System. We've distilled years of previous exam questions (PYQs) into one powerful, concise resource. Everything you need to know, nothing you don't.

- **PYQs, Decoded:** All key concepts from past exams, organized and simplified.
- **Revise in Record Time:** Short, precise, and designed for last-minute review.
- **Focus on What Matters:** Master high-probability topics and boost your confidence.

## Human Excretory System

### I. Primary Organs & Their Functions



#### A. Kidneys

- **Role:** Main organs of the excretory system.
- **Primary Functions:**
  - Filter blood to remove waste products (e.g., urea and other nitrogenous wastes).
  - Regulate water level in the blood.
  - Secrete several hormones.
- **Key Facts:**
  - All blood in the body is filtered through the kidneys.
  - The average blood flow through the kidneys is 1200 ml per minute.
  - They filter about 1500 litres of blood daily.

## B. Liver

- **Primary Function:** Responsible for detoxification, specifically of alcohol.
- **Process:** Breaks down alcohol through chemical reactions.

## II. Urine: Composition and Characteristics

- **Volume:** A healthy human excretes about 1.5 litres of urine in 24 hours.
- **Composition:** Urine is 91-96% water.
- **Colour:** The yellow colour is due to a pigment called **Urochrome** (also known as urobilin).

## III. Kidney Function & The Nephron Process

### A. Blood Pathway

1. Unfiltered, waste-filled blood enters the kidneys via the **renal artery**.
2. After filtration, clean blood leaves via the **renal vein**.

### B. Filtration Process in Nephrons

1. Filtration occurs in microscopic units called **nephrons**.
2. The process begins at the **Bowman's capsule**.
3. After initial filtration, the liquid passes through tiny tubes (**tubules**) where essential substances like glucose are reabsorbed back into the blood.

## IV. Kidney Failure & Treatment

### A. Consequence of Kidney Failure

- Nitrogenous waste products (like urea) accumulate in the blood.

### B. Treatment: Dialysis

- **Definition:** A process used to purify blood when kidneys fail.
- **Function:** Acts as an artificial substitute for kidney function.
- **Tool:** A **dialyzer** is the machine used to perform this blood-cleaning work.

## V. Kidney Stones

- The major chemical compound found in human kidney stones is **Calcium Oxalate**.
- These stones are mostly composed of Calcium Oxalate.

## VI. Other Excretory Pathways

### A. Sweat (through the skin)

- **Functions:**
  - Regulates body temperature.
  - Excretes waste.
- **Elements Excreted:** Sodium, Potassium, Calcium, Magnesium, Zinc, Copper, Iron, Chromium, Nickel, and Lead.

### Know More About Excretory System:

- [Excretory System – Old Year Questions](#)
- [Excretory System One Liner Questions & Answers](#)