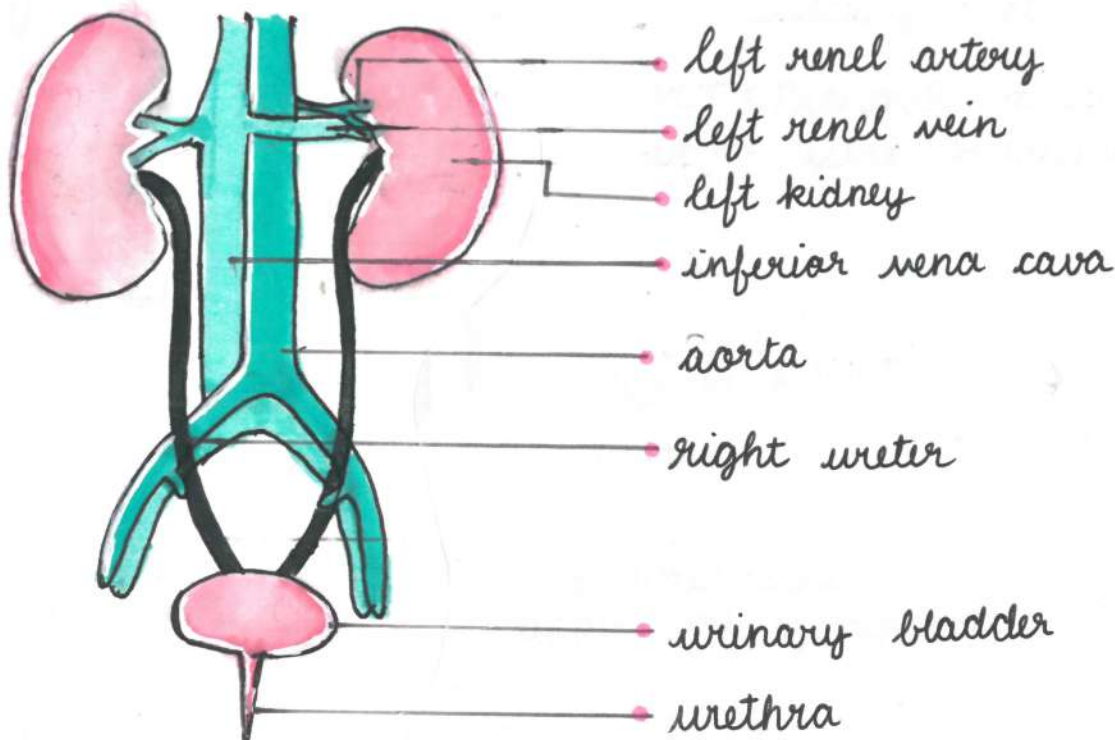


EXCRETION

- The biological process by which an organism removes harmful waste / nitrogenous wastes from body. **Excretion**
- The discharge of undigested matter from digestive tract via anus in the form of **FAECES** → **Egestion**
- Nitrogenous waste = Urea, Uric Acid, Ammonia, Creatinine, Excess H_2O

www.wownmyspace.com



Kidney

renal artery < ureter
urea conc.

- A reddish brown - bean shaped
- L back of abdominal cavity - each side of backbone
- L LEFT kidney is placed slightly higher than RIGHT kidney
 - ↳ due to asymmetrical positioning of liver

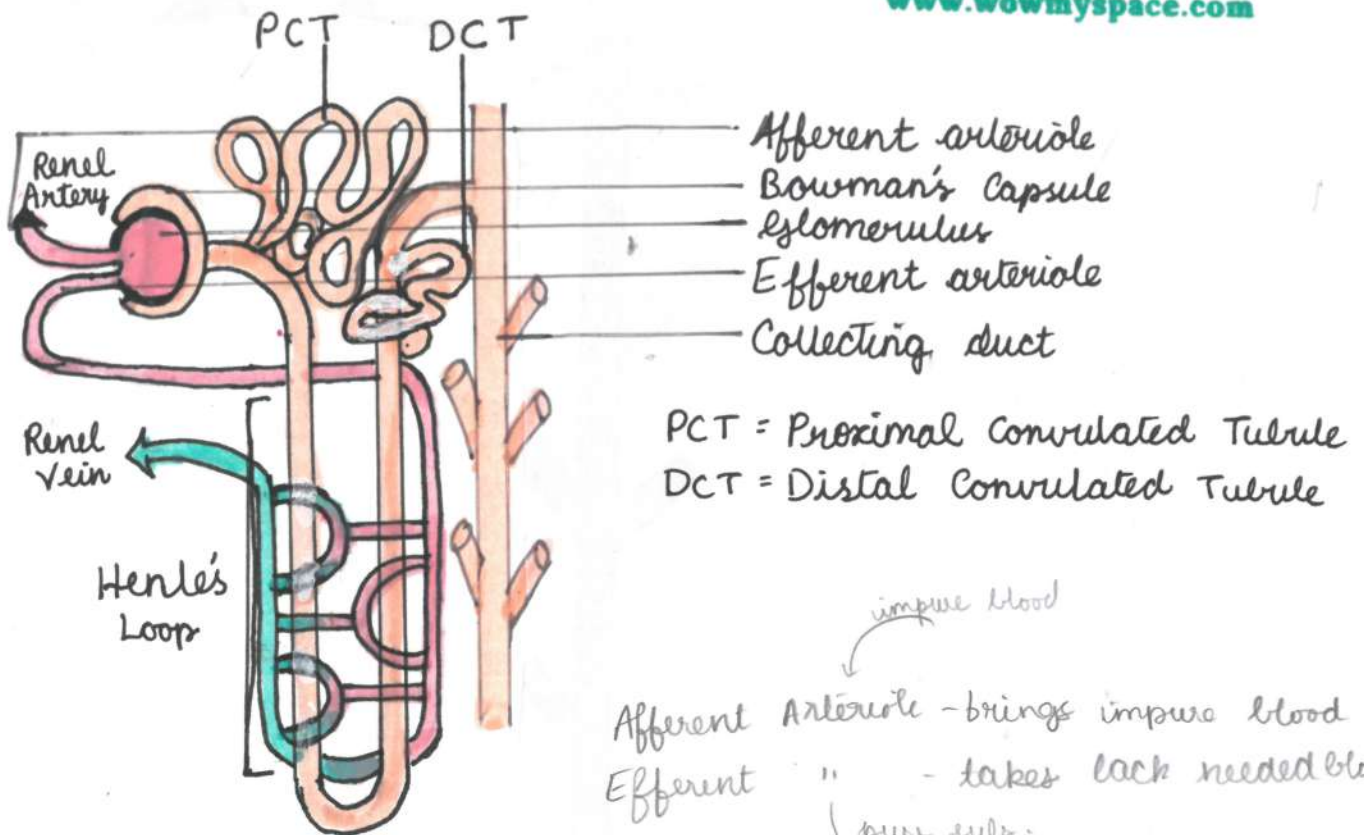
Functions

- * homeostasis
- * regulates PH of blood
- * maintain - constant concentration of blood PLASMA
- * **Osmoregulation** - removes excess H_2O , nitrogenous waste from **BLOOD** - urine
- Urea = product of Nitrogen metabolism in Liver

Nephron

tiny filtration units of kidney - numerous structural & functional unit

www.wowmyspace.com



PCT = Proximal Convoluted Tubule
DCT = Distal Convoluted Tubule

Afferent Arteriole - brings impure blood
Efferent " - takes back needed blood
(pure sub.)

Bowman's Capsule - cup like capsule
- upper end of nephron } filter blood & capture filtrate

Glomerulus = ULTRA FILTRATION → nitrogenous wastes enter
Blood gets filtered (urea + H₂O + ions + amino acids + glucose)
↓
FILTRATE

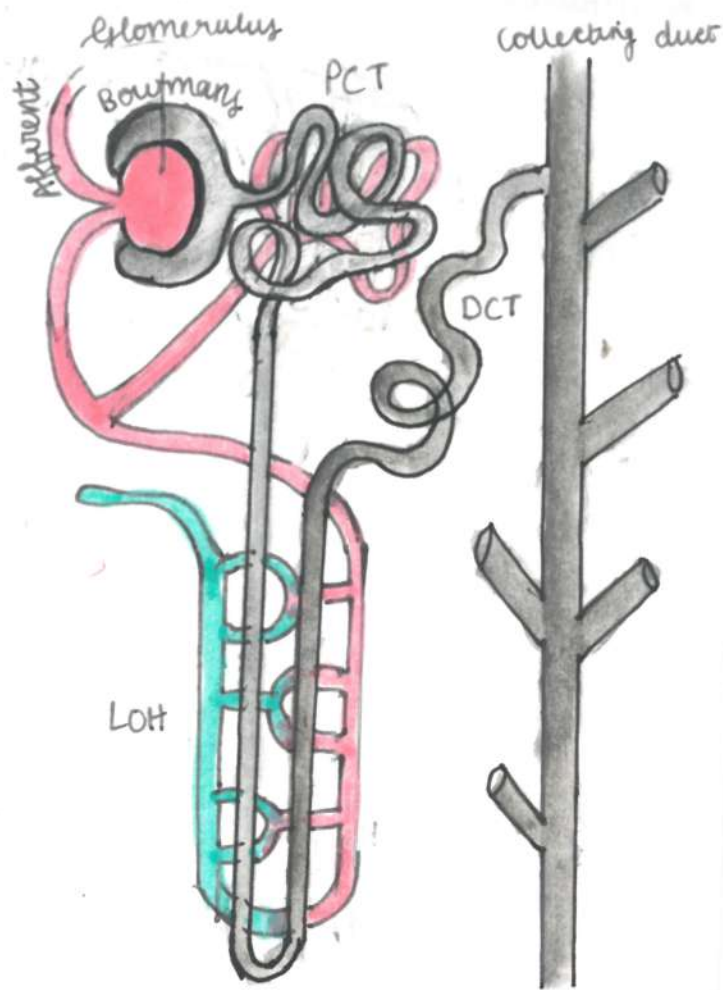
Tubule = SELECTIVE REABSORPTION of sodium, amino acids, glucose, salts, major amt of H₂O

↓
= SECREATION
nitrogenous wastes removed from blood by tubule and ^{also new} added to maintain IONIC BALANCE

Henle's Loop ⇒ concentration of urine

↓
WATER CONSERVATION
Remove H₂O returns it to blood

↓ urine
Ureter
↳ Urinary Bladder stored → Urethra expelled



www.wowmyspace.com

★ **Osmoregulation** - CONTRACTILE VACUOLE

Maintenance of optimum concentration of water & salts in body fluids.

- controlled by amount of H_2O & salt reabsorbed.

★ **ADH - Anti Diuretic Hormone / VASOPRESSINE**

Regulates concentration of urine =

★ Amount of H_2O reabsorbed depends on amount of

★ excess water

★ waste to be excreted

Volume of URINE

- excess H_2O

- dissolved waste in BLOOD

Hemodialysis

- ★ infection
 - injury
 - restricted blood flow
- } ↓ activity of kidney
 ↓
 accumulation of poisonous wastes ⇒ death

★ Kidney failure

Artificial Kidney :

device to remove nitrogenous wastes from blood through dialysis.

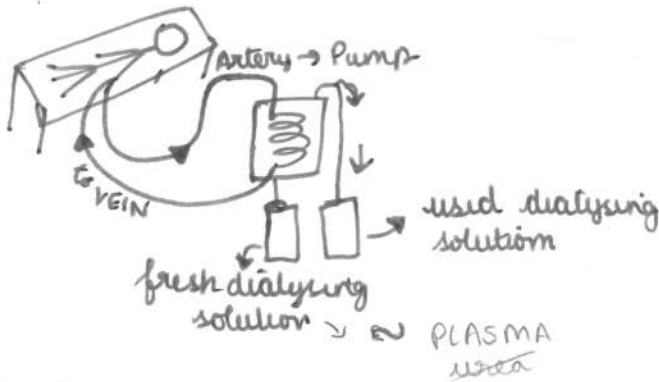
separation of particles in a liquid through a membrane on the basis of differences in their ability to pass through it. permeability.

device - tubes - semipermeable lining in tank SUSPENDED with dialysing fluid

↓
 But no nitrogenous wastes

OSMOTIC PRESSURE

osmotic po
 dialysing fluid ~ blood
 dialysing soln ~ plasma
 used



www.wowmyspace.com

NO REABSORPTION takes place

Kidney disorder - ALKAPTONURIA

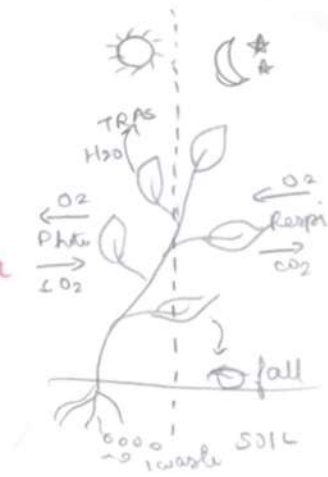
wine colour ⇒ Yellow -- → dark $\xrightarrow[\text{in AIR}]{\text{exposed}}$ blue/black

∴ ↑ homogentisinic acid

Plants

Photosynthesis	O_2	} Stomata Lenticles
Respiration	CO_2	
Transportation	excess H_2O vapour	
Other wastes	stored in leaves	fall off
Many wastes	soil	
Some wastes	stored - cellular vacuole	

- resins (varnish, glazing agent)
 - gum in OLD XYLEM
 liquid {
 - rubber
 - clove oil



NEPHRIDIA = earthworm ~~etc~~

FLAME CELLS = platyhelminthes

RAPHIDES = solid body in Trees