# **EXCETORY ORGANS IN VARIOUS ORGANISMS**

## 1)PROTONEPHRIDIA(FLAME CELLS)

-In Flatworms, rotifers, some annelids & cephalochordate (Amphioxus) -Protonephridia are primarily for osmoregulation.

#### 2)NEPHRIDIA

-In Annelids -Help in the removal of nitrogenous wastes and osmoregulation.

#### **3)MALPHIGHIAN TUBULES**

-In Insects -Help in the removal of nitrogenous wastes and osmoregulation.

#### **4)ANTENNAL OR GREEN GANDS**

-In Crustaceans (prawn etc.)

### **5)KIDNEYS**

the levels of land heating and lume -In higher animals -It includes kidneys, ureters, urinary bladder & urethra.

### STRUCTURE OF KIDNEY

- Reddish brown

- -bean-shaped
- -situated betrace
- -Length 10-12 cm

-width: 5-7 cm

- -thickness: 2-3 cm
- -Average weight:120-170 gm.
- enclosed in a tough, 3-layered fibrous renal capsule.
- On the concave side of kidney, there is an opening (hilum or hilus) through which blood vessels, nerves, lymphatic ducts and ureter enter the kidney.
- Hilum leads to funnel shaped cavity called renal pelvis with projections called calyces.
- A kidney has outer cortex & inner medulla.

- Medulla has few conical projections called medullary pyramids (renal pyramids) projecting into the calyces.

- Cortex extends in between the medullary pyramids asrenal columns (Columns of Bertini).
- Each kidney has nearly one million tubular nephrons.

#### **#NEPHRON**

- Nephrons are the structural & functional units of kidney.
- Each nephron has 2 parts: Glomerulus & Renal Tubule.

#### o GLOMERULUS