

## **CLASS VII**

### **BIOLOGY**

#### **TOPIC - EXCRETORY SYSTEM**

#### **SYNOPSIS**

- Excretion is getting rid of unwanted metabolic substances from the body.
- Organs that help in excretion of metabolic waste are called excretory organs.
- Lungs excrete carbon dioxide and water vapour produced as a result of respiration.
- Liver excrete bile pigments, toxins and urea.
- Skin releases excess of water, salts, lactic acid and urea in the form of sweat
- Kidneys excrete urea, unwanted salts and excess water in the form of urine.
- The excretory system includes the kidneys, ureters, urinary bladder and urethra.
- Kidneys are a pair of bean shaped reddish brown organs which lie on either side of the vertebral column.
- Each kidney receives a renal artery from dorsal aorta which carries oxygenated blood to the kidney and sends a renal vein which carries deoxygenated blood from the kidney to the vena cava.
- Each kidney contains about 1.2 million excretory units called nephrons.
- Ureters are two distensible tubes which connect the kidneys with the urinary bladder.
- Urinary bladder is a pear shaped bag like structure that occurs in the pelvic region of the abdominal cavity. It can hold 300 - 800ml of urine.
- Urethra is a tubular connection between the urinary bladder and the external opening of urinary tract.
- An adult human being excreted 1.0. to 1.8 litres of urine per day.
- Haematuria - When blood is passed out along with urine.
- Common disorders of the urinary system includes : Haematuria, uraemia, glycosuria and kidney stones.
- Dialysis - It is a process by which a patient's blood is filtered through a machine artificially.
- Artificial kidney - It is a dialysis machine which filters waste products from the blood like urea, uric acid which are toxic and are not removed along with urine due to renal failure.

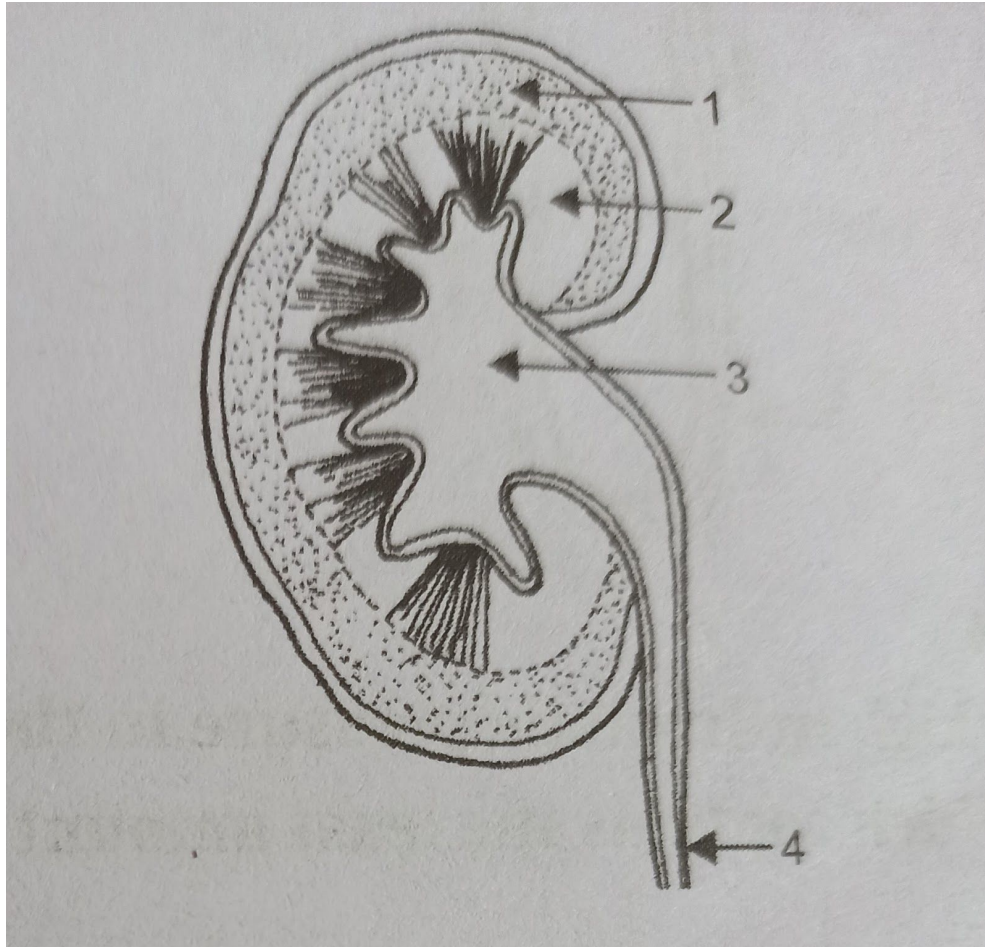
#### **WORK SHEET**

##### **Qs 1. Name the following:**

- The organ which produces urea.
- The tube which carries urine away from the kidney.
- The outer region of the kidney.
- The main nitrogenous waste in man.
- The substance found in excess in the urine of a diabetic person.
- The blood vessel leaving the kidney.

- The thin membranous sac serving as the reservoir of urine.
- An organic waste produced by the lungs in man.
- The muscle which guards the urethra.
- The structure and the functional unit of kidney.

**Qs 2. Study the diagram carefully and answer the questions that follow:**



- Label the parts numbered 1 to 4.
- What is the fluid that passes down part '4' ?.
- Name the main nitrogenous waste present in it.
- Mention the structural and functional unit of kidneys.
- State two functions of this structure.

**Qs.3. Define the following terms:**

- Micturition
- Dialysis
- Excretion
- Uraemia

- Urea cycle

**Qs 4. Draw a labelled diagram of human excretory system and mention the function of following structures:**

- Ureter
- Urinary bladder
- Urethra
- Sphincter muscle