

Board- ICSE	Std- 7th	Topic- Excretion in Humans
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MULTIPLE CHOICE QUESTIONS :

(i) The kidneys are made up of tiny tubular units called :

- (a) glomerulus
- (b) nephrons**
- (c) capillaries
- (d) neurons

(ii) In human beings, urea is produced in :

- (a) liver**
- (b) kidney
- (c) spleen
- d) urinary bladder

(iii) Besides water, the urine mainly contains :

- (a) urea**
- (b) nitric acid
- (c) glucose
- (d) bile pigments

(iv) Filtration of excretory wastes from the blood occurs in:

- (a) collecting tubule
- (b) ureter
- (c) urinary bladder
- (d) nephrons**

Q.2 Fill in the blanks :

1. Nitrogenous wastes in the urine are in the form of urea and **uric acid**.
2. The unit of human kidney is called **nephron**.
3. Evaporation of sweat from skin surface has **cooling** effect.

Q.3 Define the following:

(i) Excretion:

(ii) Excretory organs :

(iii) Dialysis :

(iv) Nephron:

Ans.

- (i) Excretion : During different metabolic activities taking place in our body, the body produces many substances of which some are useful and some are useless. The process of removal of useless and harmful metabolic waste substances is called excretion.
- (ii) Excretory organs : During different metabolic activities taking place in our body, the body produces many substances of which some are useful and some are useless. If retained in the body the unwanted substances may become poisonous and cause much harm and in severe cases, even death. The organs which remove these unwanted and toxic substances from the body are called excretory organs.
- (iii) Dialysis : The artificial process which cleans and filters the blood in a person where one or both the kidney may stop working properly is called dialysis.
- (iv) Nephron : Inside the kidney, there are millions of microscopic tubes called renal tubules or nephrons. It is the structural and functional unit of kidney.

Q.4 Write True (T) or False (F) for the following statements in the spaces provided. Rewrite the false statements in correct form.

1. Removal of solid undigested food is excretion

False Correct: Removal of solid undigested food is egestion.

2. Medulla of kidney passes urine into urinary bladder.

False Correct: Medulla of kidney passes urine into funnel-like pelvis.

3. Excess sugar in blood is a symptom of diabetes. True

4. Urine is devoid of blood cells. True

Q.5 Name the blood vessel that brings blood to the kidneys.

Ans. Renal Artery

Q.6 Where in the urinary system do the following processes take place ?

Ans.

1. Urine formation: kidneys.
2. Transport of urine away from kidney: urethra.
3. Temporary storage of urine : urinary bladder.

Q.7 Define excretion. Write the four organs of human urinary system in their correct sequence.

Answer: The process of elimination of unwanted and toxic products from the body is called excretion. The four organs of the urinary system from above to downward are:

1. kidneys
2. ureter
3. urinary bladder
4. urethra.

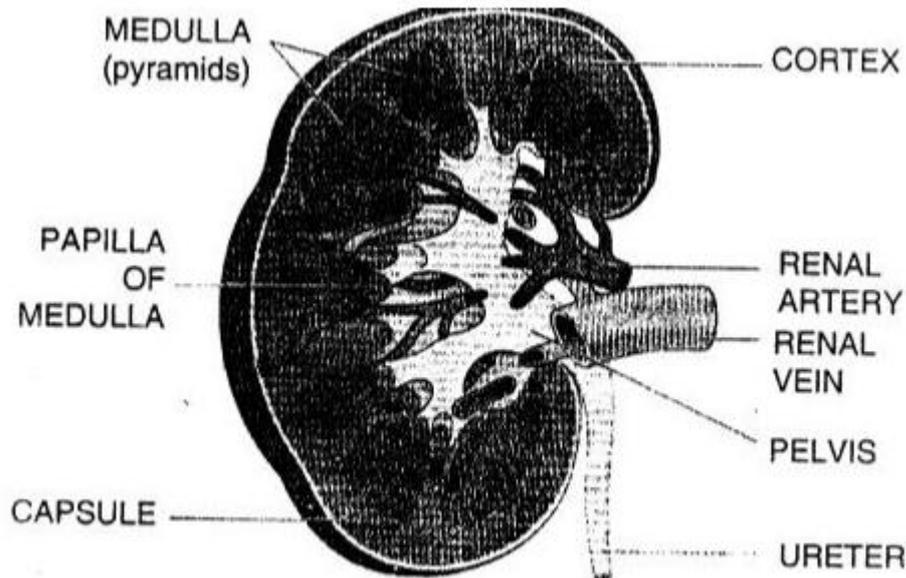
Q.8 Why is excretion necessary in living beings ?

Answer: The excretion is necessary because the toxic products if allowed to be retained in the body act as poison and cause great harm to the body. If they exceed the threshold, they may even cause death.

Q.9 What is meant by osmoregulation ?

Answer: The process of maintaining accurate concentration of water and salts in the body is called osmoregulation. This is done by the kidneys.

Q.10 Describe the structure of kidney with the help of a labelled diagram.



Section through the kidney to show different regions

Section through the kidney to show different regions The kidneys is composed of:

1. an outer darker area called Cortex
2. an inner lighter area called Medulla.

The microscopic structure of kidney is formed of millions of tubules called renal tubules or nephrons.

Q.11 What are the two ways by which a person can get relief in case of kidney failure ?

Answer: The two ways by which a person can get relief in case of kidney failure are:

1. Dialysis: this is a method in which an artificial machine cleans and filters the blood.
2. The patient can undergo kidney transplant.

Q.12 Write a short note on artificial kidneys.

Answer: Artificial kidneys : Kidneys play an important role not only by filtering the blood and getting rid of waste products, but also by balancing salt levels in the body.

controlling blood pressure, and stimulating the production of red blood cells. A person can lead a normal life with one kidney but when both of them stop functioning it could prove fatal if no treatment is provided.

An artificial kidney or a dialyser is a machine used to filter the blood of a patient whose kidneys are damaged. This process is called dialysis.

Q.13 Explain the process of transpiration. Describe some factors that effect it.

Answer: Large quantities of water are absorbed by plants for photosynthesis and other processes. Excess of water is lost in the form of water vapour through the stomata and lenticels from the aerial parts of the plant by transpiration. It helps plants to maintain the concentration of sap inside the plant body. If plants do not remove excess water through transpiration, the dilute sap will prevent further absorption of water and minerals from the soil. Factors affecting rate of transpiration are :

1. Sunlight – Rate of transpiration is more during the day as stomata are open. Stomata remain closed at night and thus no transpiration takes at night.
2. Temperature – Transpiration is more on hot days than on cold days.
3. Wind – Blowing wind removes water vapour faster from the leaves and hence transpiration rate increases.
4. Humidity – If the air is humid, rate of transpiration is low. In the rainy season, transpiration is less since humidity is more.

Q.14 Explain the structure of a nephron with the help of a diagram.

Answer: The microscopic filtering unit of kidney is called nephron or uriniferous tubule. Each nephron consists of a cup-shaped structure at one end called Bowman's capsule. Inside the cup is a network of blood capillaries called glomerulus. The Bowman's capsule and the glomerulus together form the Malpighian body. The Bowman's capsule extends into a long tubule. These tubules are surrounded by a network of renal capillaries. The urinary tubules of the nephrons in each kidney joins to form a common tube called ureter

