

Excretion in humans

1) Multiple choice questions:-

- i) The kidneys are made up of tiny tubular units called nephrons.
- ii) In human beings, urea is produced in liver.
- iii) Besides water, the urine mainly contains urea.
- iv) Filtration of excretory wastes from the blood occurs in nephrons.

2) Short answer questions:-

1] Fill in the blanks:-

- i) Nitrogenous wastes in urine are in the form of urea and uric acid.
- ii) The unit of human kidney is called nephron.
- iii) Evaporation of sweat from skin surface has cooling effect.

2] Define the following:-

- i) Excretion :- The process of removal of unwanted and harmful metabolic waste materials is called excretion.
- ii) Excretory organs :- The organs which remove the unwanted and toxic substances from the body are called excretory organs.
- iii) Dialysis :- The clinical method of purification of blood using a machine as a substitute for the normal function of the kidney is dialysis.

2) Nephron - Nephrons are the structural and functional units of kidney.

3) Write True (T) or False (F)

i) F ii) F iii) T iv) T

4) Name the blood vessel that brings blood to the kidneys - Renal artery.

5) Where do the following processes take place?

i) Urine formation → Nephron.

ii) Transport of urine away from kidney → Ureter.

iii) Temporary storage of urine → Urinary bladder.

Long answer Questions:-

Q.1) Define excretion. Write the four organs of human urinary system in their correct sequence.

→ pt. 2 (i) [short-answer]

The four organs of human urinary system are

a) Kidney b) Ureter c) Urinary bladder d) Urethra

Q.2) Why is excretion necessary in living beings?

• During different metabolic activities taking place in our body, the body produces many substances of which some are useless. If retained in the body, the useless unwanted substances may become poisonous and cause much harm and in severe cases, even death. So, to get rid of these substances, excretion is necessary in living

beings.

Q.3) What is osmoregulation?

- Besides removing urea and uric acid from the blood, the kidneys also help in maintaining the water and salt concentration in it. This process of regulation of water and salt content in our body is called osmoregulation.

Q.4) Describe the structure of kidney with the help of a labelled diagram.

- Internally, each kidney is composed of an outer darker region called cortex and an inner lighter region called medulla. The medulla drains the urine into a funnel-shaped structure called the renal pelvis. The ureters originate from renal pelvis.

Diagram - Fig 5.2 (PS-52)

Q.5) What are the two ways by which a person can get relief in case of kidney failure?

- The two ways are - a) Dialysis b) Kidney transplantation.

Q.6) Draw the diagram of human excretory system & label kidney, ureter, urinary bladder and urethra.

Diagram - PS-52 Fig 5.1

Q-7) How are kidney stones formed?

- Kidney stones are formed when crystal forming substances such as calcium oxalate, calcium phosphate and uric acid are more than the fluid in the urine. These chemicals start sticking together and form crystals called kidney stones. They may be formed in any area of the excretory system.

Q-8) What are the symptoms of a urinary tract infection?

- common symptoms of urinary tract infection are strong and frequent urge to urinate and a painful and burning sensation while urinating.

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