

## Biology - 12th Class Biology Chapter 15 Short Questions Preparation

Q1. What is vasa recta?

**Ans 1:** In juxtamedullary nephrons additional capillaries extend down to from a loop of vessels called vasa recta.

Q2. Write two types of synthesis functions of liver and effects on homeostasis.

**Ans 1:** Synthesis function of liver include.

1. Synthesis of urea, ammonia and uric acid. It assists kidney for the removal of wastes.
2. Synthesis of plasma proteins like proteins like prothrombin and fibrinogen. It maintains osmotic balance of blood and help in blood clotting.

Q3. Differentiate between osmoregulation and thermoregulation.

**Ans 1:** Osmoregulation: The mechanism of regulation, generally between organism and its environment of solute and the gain & loss of water is called osmoregulation.

**Ans 2:** Thermoregulation: The maintenance of body temperature within a tolerable range is called thermoregulation.

Q4. What is renal failure?

**Ans 1:** When kidneys perform no more function and cannot filter blood to produce nitrogenous waste, this is called renal failure or uremia.

Q5. Describe the structure of a flame cell.

**Ans 1:** It is a complete eukaryotic cell. It has a nucleus, other cell organelles and a cavity where the waste products are collected. Each flame cell has a tuft of cilia, whose beating propels interstitial fluid into the tubular system.

Q6. What are the effects of ADH and Aldosterone on the work of a nephron?

**Ans 1:** Aldosterone and ADH help in full conservation of water in the proximal convoluted part of the nephron and are concerned with maintenance of urine concentration.

Q7. What are heat-shock proteins?

**Ans 1:** Most plants have adapted to survive in heat stress as the plants of temperate regions face the stress of 40°C and above temperature. The cells of these plants synthesize large quantities of special proteins called heat shock proteins. These proteins

embrace enzymes and other proteins thus help to prevent denaturation.

---

Q8. Define dialysis. Give its types.

**Ans 1:** When the kidneys of a patient are failed then nitrogenous wastes are removed by filtering blood through dialysis. Dialyzing machine is called artificial kidney machine.

It has two types:

1. Peritoneal dialysis
  2. Hemodialysis
- 

Q9. Define Homeostasis.

**Ans 1:** The protection of internal environment from the harms of fluctuation in external environment is called homeostasis. The homeostasis keeps the internal fluctuation in a narrow range with various control systems compared to wider external fluctuation. The control system would not let the body flooded with water in abundant supply of water.

---

Q10. What are different metabolic wastes in humans?

**Ans 1:** Following are the metabolic wastes.

1. Urea
  2. Uric acid
  3. Bilirubin
  4. Creatinine
  5. Xanthine
  6. Hypoxanthine
-