

## KPK Class 10 Biology Short Questions – Chapter 11

### Homeostasis

#### **Q1. Define homeostasis and osmoregulation.**

**Homeostasis** 🏠🌿 is like a balance scale for your body. It's the process of keeping everything inside your body steady and stable, no matter what's happening around you. Think of it as your body's way of keeping things "just right."

**Osmoregulation** 💧🌿 is a special part of homeostasis that deals with keeping the right balance of water and salts in your body. It's like making sure your body's fluids are just salty enough.

#### **Q2: Differentiate between the adaptations of hydrophytes and xerophytes for osmoregulation.**

**Hydrophytes:** 🌿🌿

- **Large air spaces:** They have lots of air pockets in their leaves to help them float and stay close to the water's surface for more sunlight. ☀️
- **Waxy cuticle:** A thin, waterproof layer on their leaves to prevent water loss. 💧🚫
- **Stomata open all the time:** They have tiny pores called stomata that are always open to easily exchange gases with the water. ⇌🌿

**Xerophytes:** 🌵🌵

- **Thick, waxy cuticle:** A thick, waterproof layer on their leaves and stems to prevent water loss. 💧🚫
- **Sunken stomata:** Their stomata are hidden in pits to trap moist air and reduce water loss. ⇌💧
- **Reduced leaf surface area:** They have small or needle-like leaves to reduce the surface area where water can evaporate. 🌿🌿
- **Fleshy stems:** They store water in their stems to survive in dry conditions. 🌿📦

#### **Q3: Briefly describe how kidneys control the composition of blood.**

The kidneys are like tiny filters that clean the blood. ☐ They do this by:

- **Filtering waste products:** They remove waste products like urea, uric acid, and excess salts from the blood. 🗑️
- **Reabsorbing needed substances:** They reabsorb important substances like glucose, amino acids, and water back into the blood. ♻️
- **Maintaining water balance:** They regulate the amount of water in the body by adjusting how much water is reabsorbed. 💧

#### Q4: Enlist materials in our diet which are more likely to cause kidney stones?

Some foods can increase the risk of kidney stones: ⚠️

- **Foods high in oxalate:** Spinach, rhubarb, chocolate, and nuts. 🥬🍫🌰
- **Foods high in sodium:** Processed foods, canned soups, and fast food. 🍷🍔
- **Foods high in animal protein:** Meat, poultry, and fish. 🍖🐔🐟
- **Foods low in calcium:** If you don't eat enough calcium-rich foods like dairy products, your kidneys may work harder to filter waste products. 🥛

#### Q5: Define lithotripsy?

Lithotripsy is a medical procedure that uses shock waves to break up kidney stones into smaller pieces. ✨ This makes it easier for the stones to pass through your urine. 🚽

#### Q6: What is the role of the skin in thermoregulation?

The skin helps to regulate body temperature by:

- **Sweating:** When you're hot, your sweat glands release sweat onto your skin, which evaporates and cools you down. 💧
- **Adjusting blood flow:** When you're cold, your blood vessels constrict to keep your blood closer to your core and warm you up. When you're hot, your blood vessels dilate to allow more blood to flow to your skin and help you cool down. 🌡️
- **Insulation:** The layer of fat beneath your skin helps to insulate your body and keep you warm.



**Q8: Which term is used for the disease where one or both kidneys do not perform their function?**

The term used for the disease where one or both kidneys do not perform their function is **kidney failure**. ❤️

examkhani.com