Class 10th

Subject: Biology

Chapter 11: Homeostasis

Important Short Questions:

1. What is homeostasis in plants?

(a) Rapid growth mechanism

(**b**) Constant internal condition maintenance ✅

(c) Absorption of light energy

(d) Production of chlorophyll

2. How do plants remove extra carbon dioxide at night?

(a) By photosynthesis

(b) By guttation

(**c**) By diffusion through stomata ✅

(d) By transpiration

3. During the daytime, carbon dioxide is:

(a) Stored in vacuoles

(b) Utilized in photosynthesis ✅

(c) Converted to nitrogen

(d) Released through xylem

4. Which plant parts remove extra CO_2 through stomata?

(a) Flowers

(b) Roots

(c) Leaves and young stems ✅

(d) Bark

5. Oxygen is produced in mesophyll cells as a by-product of:

(a) Transpiration

(b) Respiration

(c) Photosynthesis ✅

(d) Diffusion

6. Extra water in plants is mostly removed by:

(a) Respiration

(b) Guttation

(c) Photosynthesis

(d) Transpiration ✅

7. What is guttation?

(a) Loss of water vapor

(b) Appearance of water drops at leaf tips or edges ✅

(c) Movement of salts in xylem

(d) Formation of oxygen during night

8. At night, transpiration usually does not occur because:

(a) Leaves fall off

(b) Roots stop working

(c) Stomata are closed ✅

(d) Photosynthesis increases

9. Which structures in leaves help remove water during guttation?

(a) Stomata

(b) Lenticels

(c) Root hairs

(**d**) Special pores ✅

10. Which metabolic waste is stored as crystals in tomato?

(a) Latex

(**b**) Calcium oxalate ✅

(c) Mucilage

(d) Gums

11. Gums are removed by which plant?

(a) Tomato

(**b**) Keekar ✅

(c) Cactus

(d) Water lily

12. What kind of environment do xerophytes live in?

(a) Salty

(b) Wet

(c) Freshwater

(d) Dry ✅

13. Which plant stores water in succulent organs?

(a) Water lily

(b) Rubber plant

(c) Cactus ✅

(d) Keekar

14. What feature helps hydrophytes remove extra water?

(a) Thin roots

(b) Crystals in leaves

(c) Stomata on upper surface ✅

(d) Succulent stems

15. How do halophytes maintain water inside cells?

(a) Through photosynthesis

(b) By active transport of salts into vacuoles ✅

(c) By closing stomata

(d) By storing water in stems

16. Which organ removes excess carbon dioxide from the body?

(a) Kidney

(b) Skin

(c) Lungs ✅

(d) Liver

17. What is the main function of the fat layer in the dermis of skin?

(a) Absorption of oxygen

(b) Production of sweat

(c) Body insulation ✅

(d) Removal of salts

18. What causes 'goosebumps' on the skin?

(a) Expansion of sweat glands

(b) Contraction of small muscles attached to hairs ✅

(c) Cold weather only

(d) Evaporation of sweat

19. Which substances are removed through sweat by skin?

(a) Salts and carbon dioxide

(b) Urea, uric acid, water, and salts ✅

(c) Oxygen and nitrogen

(d) Glucose and oxygen

20. How is carbon dioxide transported from cells to lungs?

(a) By sweat glands

(b) Directly through muscles

(c) From tissue fluid to blood, then to lungs ✅

(d) Through nerve endings

21. What is the functional unit of the kidney?

(a) Glomerulus

(b) Nephron ✅

(c) Ureter

(d) Renal pyramid

22. How many nephrons are present in each kidney

approximately?

(a) One hundred thousand

(**b**) One million ✅

(c) Ten million

(d) One thousand

23. Which part of nephron comes immediately after Bowman's capsule?

(a) Loop of Henle

(b) Distal convoluted tubule

(**c**) Proximal convoluted tubule ✅

(d) Collecting duct

24. What is the function of the Loop of Henle?

(a) Filters blood

(**b**) Reabsorbs water and salts ✅

(c) Stores urine

(d) Produces urea

25. What is the outer region of the kidney called?

(a) Renal pelvis

(b) Renal cortex ✅

(c) Renal medulla

(d) Renal capsule

26. What is the name of the cup-shaped structure that encloses the glomerulus?

(a) Loop of Henle

(b) Bowman's capsule ✅

(c) Renal pelvis

(d) Collecting duct

27. In which step of urine formation does selective reabsorption occur?

(a) First

(b) Second ✅

(c) Third

(d) Last

28. What happens when there is excess water in the body?

(a) Kidneys produce hypertonic urine

(b) Kidneys stop filtration

(c) Kidneys produce hypotonic (dilute) urine ✅

(d) Kidneys reabsorb more water

29. Which process maintains the balance of water and salts in body fluids?

(a) Excretion

(b) Homeostasis

(c) Osmoregulation ✅

(d) Filtration

30. What are kidney stones made of?

(a) Fat and glucose

(b) Protein and calcium

(c) Crystals of salts like calcium oxalate and uric acid ✅

(d) Water and enzymes

31. Which condition causes formation of kidney stones?

(a) Dilute urine

(b) Concentrated urine ✅

(c) Acidic blood

(d) More red blood cells

32. A method used to break kidney stones using shock waves is:

(a) Transfusion

(b) Lithotripsy ✅

(c) Haemodialysis

(d) Transplantation

33. What is a common symptom of kidney stones?

(a) Fever and cough

(b) Pain in lower abdomen ✅

(c) Dry skin

(d) Blurred vision

34. Which of the following is not a cause of kidney stones?

(a) Excess water intake ✅

(b) Less water intake

(c) Urinary infections

(d) Excess vitamins C and D

35. Kidney failure refers to:

(a) Temporary back pain

(b) Partial or complete loss of kidney function ✅

(c) Infection in urinary bladder

(d) Loss of calcium

36. Which are leading causes of kidney failure?

(a) Cold and flu

(b) Diabetes and hypertension ✅

(c) Liver infection

(d) Gallstones

37. Which substance builds up in the blood during kidney failure?

(a) Insulin

(b) Urea ✅

(c) Bile

(d) Glucose

38. Which is a symptom of kidney failure?

(a) Increased appetite

(b) Vomiting and nausea ✅

(c) High energy

(d) Dry mouth only

39. What is dialysis?

(a) Removal of bladder

(b) Cleaning of blood artificially ✅

(c) Transplanting kidney

(d) X-ray of kidneys

40. In peritoneal dialysis, where is the dialysis fluid placed?

(a) Blood vessels

(b) Urinary bladder

(c) Peritoneal cavity ✅

(d) Kidney cortex

41. Haemodialysis is performed using a device called:

(a) Haemometer

(b) Dialyzer ✅

(c) Thermometer

(d) Stethoscope

42. Which part of dialyzer acts as a semi-permeable membrane?

(a) Plastic case

(b) Long tubes ✅

(c) Blood filter

(d) Filter paper

43. What is kidney transplant?

(a) Cleaning blood

(b) Injecting fluid

(c) Replacing damaged kidney with healthy one ✅

(d) Repairing kidney internally

44. A possible complication after kidney transplant is:

(a) Excess hair growth

(b) Transplant rejection ✅

(c) Lung failure

(d) Muscle cramps only

Exercise Short Questions:

Q1: What are the major organs involved in homeostasis in human body? State the roles of each of these organs.

Answer:

The major organs involved in homeostasis are:

1. Kidneys:

Remove excess water, salts, and urea; maintain water and salt balance.

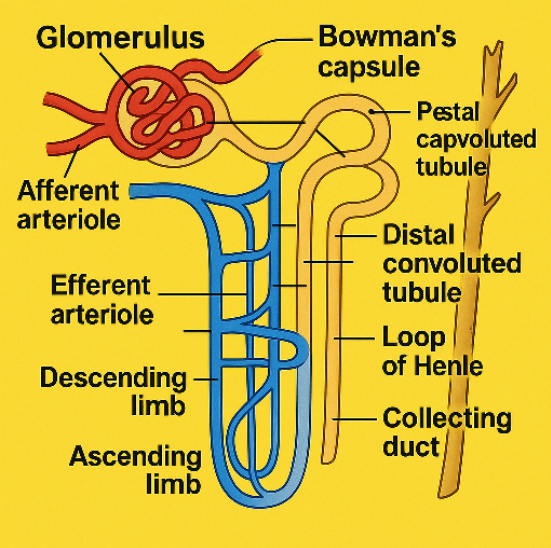
2. Lungs:

Remove excess carbon dioxide to regulate blood pH.

3. Skin:

Regulates body temperature and removes water, salts, and urea through sweat.

Q2: Identify and label the following diagram.



Answer:

The diagram shows a nephron (functional unit of the kidney).

Labeled parts:

1. Bowman's capsule
2. Glomerulus
3. Proximal convoluted tubule
4. Loop of Henle
5. Distal convoluted tubule
6. Collecting duct
7. Blood vessels (afferent and efferent arterioles)

Important Short Questions:

1. What is homeostasis in plants?

Answer:

The maintenance of internal conditions (like water, gases, and salts) in plants despite environmental changes is called homeostasis.

2. How do plants remove excess carbon dioxide at night?

Answer:

At night, extra carbon dioxide is removed by diffusion through stomata in leaves and young stems, and through root surface in young roots.

3. What is the role of stomata in removal of oxygen?

Answer:

Stomata help in the removal of excess oxygen produced during photosynthesis from mesophyll cells, especially in the daytime.

4. What is guttation?

Answer:

The appearance of water drops at the tips or edges of leaves due to high root pressure is called guttation.

5. Name any two metabolic wastes stored in plant tissues.

Answer:

Calcium oxalate and resins are two examples of metabolic wastes stored in plants.

6. What are hydrophytes? Give one example.

Answer:

Hydrophytes are plants that live in freshwater. **Example**: Water lily.

7. How do xerophytes prevent water loss?

Answer:

Xerophytes have thick, waxy cuticle and fewer stomata to reduce water loss through transpiration.

8. Name the major organs involved in homeostasis in the human body.

Answer:

Lungs, skin, and kidneys.

9. What is the function of lungs in homeostasis?

Answer:

Lungs remove excess carbon dioxide and maintain its balance in blood.

10. How does skin help in regulating body temperature?

Answer:

Skin produces sweat, and heat escapes through evaporation, cooling the body.

11. What is the function of fat layer in the dermis?

Answer:

It insulates the body and helps retain heat.

12. What are goosebumps and how are they formed?

Answer:

Goosebumps are caused by contraction of small muscles attached to hairs, forming a warm air blanket.

13. What is the function of kidneys?

Answer:

Kidneys filter blood to remove excess water, salts, and wastes to form urine.

14. What is the functional unit of kidney?

Answer:

Nephron.

15. Name the three main steps of urine formation.

Answer:

Pressure filtration, selective reabsorption, and tubular secretion.

16. What is osmoregulation?

Answer:

Regulation of water and salt concentration in blood and body fluids.

17.. What is the shape and average size of a human kidney?

Answer:

Kidney is bean-shaped; about 10 cm long, 5 cm wide, and weighs 120 grams.

18. What are kidney stones?

Answer:

Hard deposits formed by crystallization of salts (like calcium oxalate, uric acid) in concentrated urine are called kidney stones.

19. Write two major causes of kidney stones.

Answer:

Less intake of water and high salt/vitamin-rich diet (e.g. vitamins C and D).

20. What is lithotripsy?

Answer:

It is a method to break kidney stones using external shock waves so that they pass out in urine.

21. What is kidney failure?

Answer:

Complete or partial loss of kidney function is called kidney (renal) failure.

22. Name any two symptoms of kidney failure.

Answer:

Vomiting and swelling in legs or face.

23. What is dialysis?

Answer:

Dialysis is the artificial cleaning of blood when kidneys fail to function.

24. What is a kidney transplant?

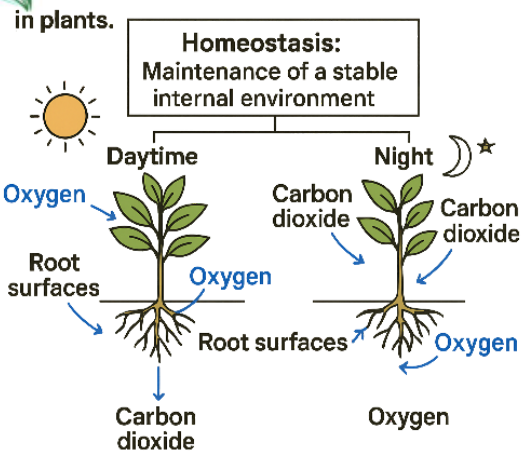
Answer:

It is the surgical replacement of a damaged kidney with a healthy donor kidney.

Important Long Questions:

🌟 **Q1: Define homeostasis. Explain the mechanisms of removal of extra carbon dioxide and oxygen in plants.**

Answer:



➤ Definition of Homeostasis:

Homeostasis is the process by which living organisms maintain a stable internal environment despite changes in the external environment.

In plants, homeostasis ensures the balance of gases (like carbon dioxide and oxygen), water, and other chemical substances.

Removal of Extra Carbon Dioxide:

During Daytime:

- Plants perform photosynthesis, which uses carbon dioxide.
- The carbon dioxide produced in respiration is utilized in photosynthesis, so it does not accumulate.

- Thus, no removal is needed in the daytime.

📍 **During Night:**

- Photosynthesis does not occur at night due to the absence of sunlight.
- Carbon dioxide produced during cellular respiration becomes surplus.
- This excess carbon dioxide is removed from plant tissues by diffusion.

Ways of Removal:

In leaves and young stems: carbon dioxide escapes through stomata.

In young roots: it diffuses through root surface, especially root hairs.

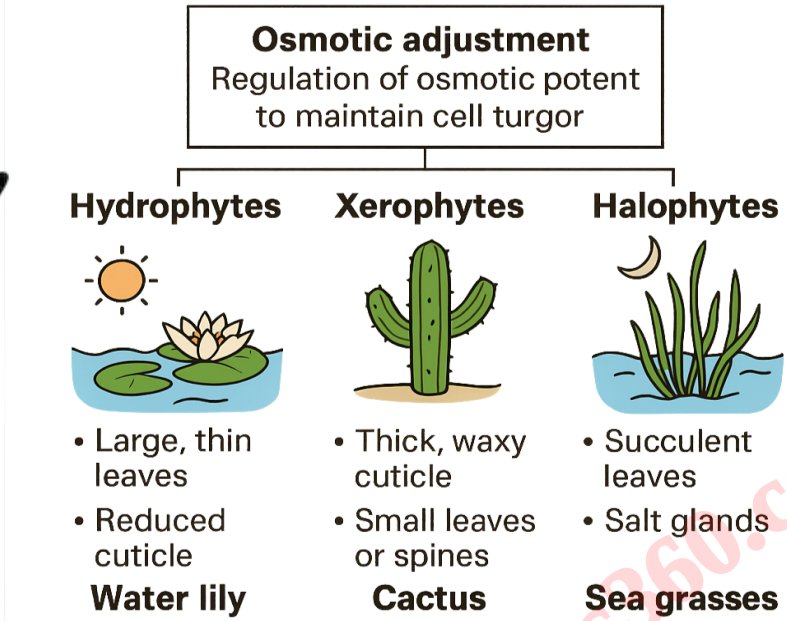
🌿 **Removal of Extra Oxygen:**

Oxygen is a by-product of photosynthesis, produced only during daytime in mesophyll cells.

After fulfilling the need for cellular respiration, the extra oxygen is:

- Removed through stomata in leaf cells.

🌟 **Q2: What is osmotic adjustment in plants? Describe the adaptations in: Hydrophytes, Xerophytes, and Halophytes.**



➤ **Definition of Osmotic Adjustment:**

Osmotic adjustment is the ability of plants to regulate water and salt concentration in their cells according to environmental conditions.

It helps maintain turgor pressure, cell shape, and internal balance under stress.

🌊 **1. Hydrophytes (Water Plants):**

Habitat:

- Freshwater environments

- Fully or partially submerged

Osmotic Condition:

- No water shortage, but risk of water excess

Adaptations:

- Broad leaves to float on water surface
- Large number of stomata on upper surface for rapid water removal
- Thin cuticle (since water loss isn't a problem)

🌵 2. Xerophytes (Desert Plants):

Habitat:

- Dry/arid environments (deserts)

Osmotic Condition:

- Severe water shortage
- Need to store water and minimize loss

Adaptations:

- Thick, waxy cuticle to reduce transpiration
- Few stomata to slow water loss
- Deep roots to absorb maximum groundwater

- Special parenchyma cells in stems/roots to store water
- These water-storing organs are called succulent organs

🌾 3. Halophytes (Salt-Tolerant Plants):

Habitat:

- Salty/seawater environments (like mangroves)

Osmotic Condition:

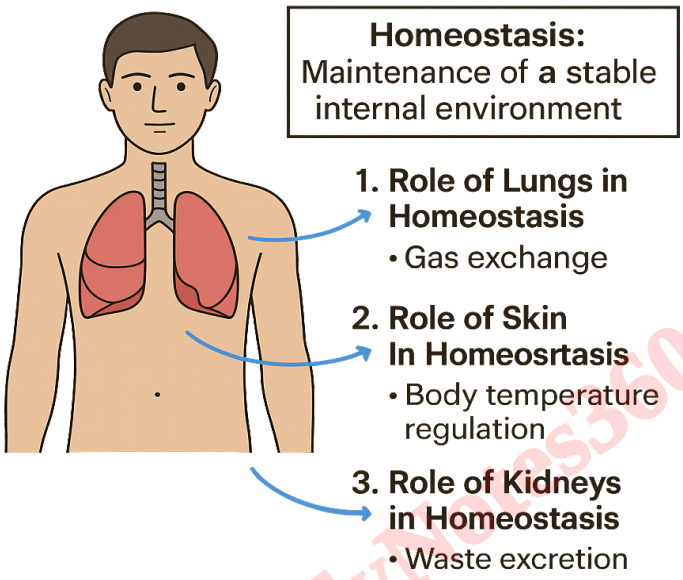
- High salt outside draws water out of cells (hypertonic condition)

Adaptations:

- Use active transport to accumulate more salts in vacuoles
- Maintain vacuolar sap more hypertonic than seawater
- Prevent water loss from cytoplasm
- Retain water inside cells

🌟 Q3: What is homeostasis? Describe the role of skin, lungs, and kidneys in maintaining homeostasis in humans.

What is homeostasis? Describe the role of skin, lungs, and kidneys in maintaining homeostasis in humans.



➤ Introduction:

- Homeostasis is the ability of the body to maintain a stable internal environment despite changes in the external surroundings.
- In humans, several organs work together to control the levels of water, salts, body temperature, and carbon dioxide.

🫁 1. Role of Lungs in Homeostasis:

- Main Function: Removal of excess carbon dioxide (CO_2) from the blood.
- Process:
- During cellular respiration, cells produce CO_2 as a waste.
- CO_2 diffuses from cells ⇒ tissue fluid ⇒ blood.
- Blood transports CO_2 to the lungs.
- Lungs expel CO_2 from the body through exhalation.

Result: Maintains the acid-base balance and prevents CO_2 poisoning in blood.

🧴 2. Role of Skin in Homeostasis:

Structure of Skin:

Epidermis: Outer layer (protective, without blood vessels).

Dermis: Inner layer (contains blood vessels, nerves, sweat and oil glands, hairs, and fat cells).

🔸 Functions of Skin:

a. Temperature Regulation:

- Fat layer in dermis provides insulation.
- Goosebumps (contraction of muscles attached to hairs) trap warm air as a blanket.
- Sweating: When body is hot, sweat glands produce sweat.
- Evaporation of sweat removes heat ’n cooling effect.

b. Excretion:

- Sweat contains: Water, salts, urea, and uric acid.
- Thus, skin helps in removal of metabolic wastes and regulates water and salt balance.

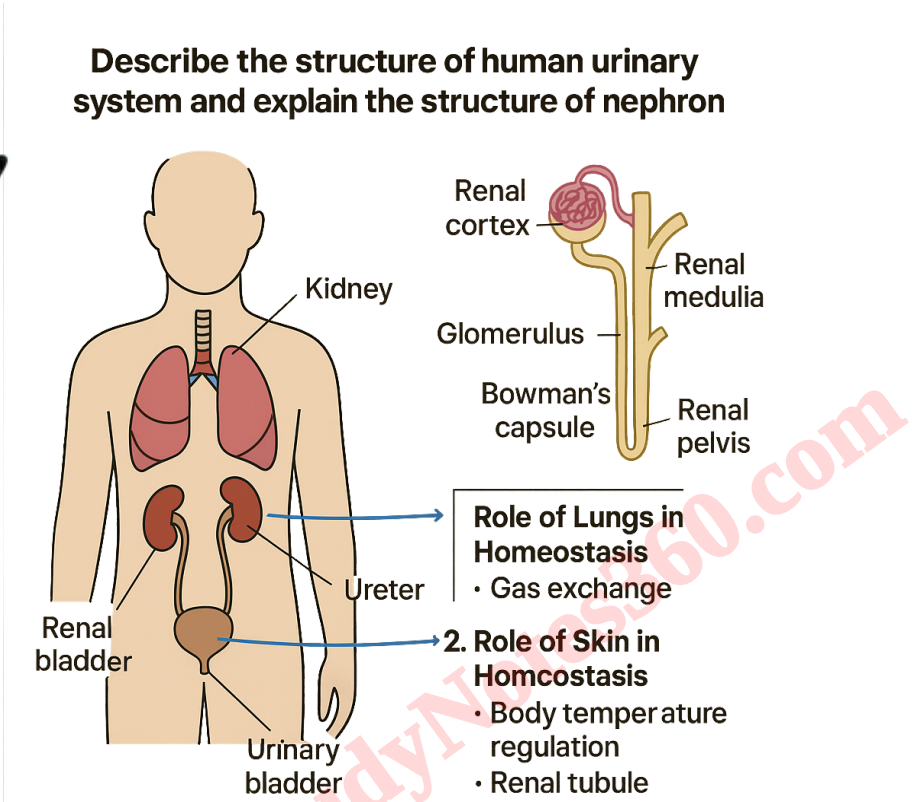
3. Role of Kidneys in Homeostasis:

Function: Remove excess water, salts, urea, and uric acid from blood.

- These wastes are filtered from blood and converted into urine.
- Maintains the balance of fluids, electrolytes, and blood pressure.

- Regulates pH (acidity) of blood.

🌟 **Q4: Describe the structure of human urinary system and explain the structure of nephron.**



📘 Definition of Urinary System:

The urinary system (also called the excretory system) in humans is responsible for the removal of nitrogenous wastes (like urea and uric acid) and maintaining water and salt balance in the body.

🧠 Main Organs of Urinary System:

The human urinary system consists of the following

parts:

Kidneys (2): Filter blood and form urine

Ureters (2): Carry urine from kidneys to bladder

Urinary Bladder (1): Stores urine

Urethra (1): Passes urine out of the body

🧱 Structure and Position of Kidneys:

Shape: Bean-shaped, dark red

Size: 10 cm long, 5 cm wide, 4 cm thick

Weight: Around 120 grams

Location: On either side of vertebral column, just below diaphragm

Protection: By the last two ribs

Left Kidney: Slightly higher than the right

🧬 Internal Structure of Kidney:

Renal Cortex:

- Outer part of kidney; dark red in color

Renal Medulla:

Inner part: pale red; consists of cone-shaped renal

pyramids

Renal Pelvis:

- Funnel-shaped cavity where urine collects before moving to ureter

Hilus:

- Depression through which ureter, blood vessels, lymph vessels, and nerves enter or leave the kidney

🧪 Structure of Nephron (Functional Unit):

Each kidney has over 1 million nephrons. Each nephron has two main parts:

1. Renal Corpuscle:

Glomerulus:

A network of capillaries where blood is filtered

Bowman's Capsule:

A cup-shaped structure that surrounds the glomerulus and receives the filtrate

- **2. Renal Tubule:**

Proximal Convoluted Tubule (PCT):

Reabsorbs glucose, salts, and water

Loop of Henle:

U-shaped: reabsorbs water and salts (descending and ascending limbs)

Distal Convoluted Tubule (DCT):

Performs selective reabsorption

Collecting Duct:

Receives urine from multiple nephrons and delivers it to the renal pelvis

🌟 **Q5: What is Osmoregulation? Describe how kidneys regulate water content in the human body.**

📘 **Definition of Osmoregulation:**

Osmoregulation is the process by which the kidneys regulate the balance of water and salts (electrolytes) in blood and body fluids.

👉 It helps maintain a stable internal environment, which is necessary for normal cellular activities.

🧠 **Role of Kidneys in Osmoregulation:**

Kidneys control water content of the body by

adjusting the concentration of urine depending on water availability.

💧 **1. When Water is in Excess (Dilute Urine Formation):**

- Kidneys filter more water from blood into Bowman's capsule.
- Less water is reabsorbed in renal tubule.
- As a result, dilute (hypotonic) urine is formed.
- This helps reduce the volume of body fluids to normal.

🔹 **Example**: In cold weather, more urine is produced.

🔥 **2. When Water is Less (Concentrated Urine Formation):**

- Less water is filtered into Bowman's capsule.
- More water is reabsorbed back into blood from renal tubule.
- This results in concentrated (hypertonic) urine.
- Helps retain water and increase fluid volume in

the body.

🔹 **Example**: In hot weather or dehydration, urine becomes darker.

🧪 3. Hormonal Control of Osmoregulation:

ADH (Antidiuretic Hormone):

Secreted by the pituitary gland when water is low.

➤ Increases reabsorption of water in kidneys.

➤ Produces less but concentrated urine.

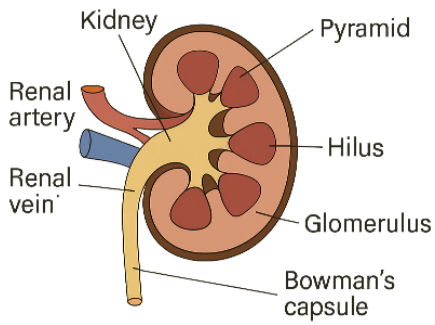
Aldosterone:

Promotes reabsorption of sodium (Na^+); water follows by osmosis.

✅ Importance of Osmoregulation:

- Maintains blood pressure
- Keeps pH balanced (7.35–7.45)
- Prevents cell dehydration or swelling
- Ensures normal metabolic activities

🌟 Q6: Describe the internal structure of kidney with labelled diagram.



📘 Definition:

The kidney is a bean-shaped excretory organ responsible for filtering blood, forming urine, and maintaining homeostasis in the human body.

It has a complex internal structure that supports its filtering function.

🔍 Internal Structure of Kidney:

The internal anatomy of a kidney is divided into three main regions:

🧠 1. Renal Cortex

- Outer dark red layer of the kidney.
- Contains Bowman's capsules and glomeruli of nephrons.

- Responsible for initial blood filtration.

🌀 2. Renal Medulla

- Inner pale red region beneath the cortex.
- Composed of cone-shaped renal pyramids.
- Contains loops of Henle and collecting ducts.
- Renal pyramids project into the renal pelvis.

📥 3. Renal Pelvis

- Funnel-shaped cavity that collects urine.
- Urine flows from collecting ducts ⇒ papillary ducts ⇒ renal pelvis.
- Pelvis leads into the ureter, which carries urine to the bladder.

🚪 4. Hilus (Hilum)

The concave part of the kidney facing the spine.

Site where blood vessels, lymphatic vessels, nerves, and ureter enter or exit.

Acts as a gateway to the kidney.

🧬 5. Blood Supply

Renal artery brings blood to the kidney for filtration.

Renal vein carries filtered blood back to circulation.

🔬 6. Nephron (Functional Unit)

Each kidney has over 1 million nephrons.

Located mostly in cortex and medulla.

Nephron filters blood, reabsorbs useful substances, and forms urine.

🌟 **Q7: Discuss the role of kidneys in maintaining the composition and pH of blood.**

📘 **Definition:**

The kidneys are vital excretory organs in humans that help regulate blood composition, maintain internal fluid balance, and control pH levels of the body.

🧪 **Functions of Kidney in Blood Composition Maintenance:**

🩸 **1. Removal of Nitrogenous Wastes**

Kidneys filter out urea, uric acid, and creatinine from the blood.

These are toxic by-products of protein metabolism.

Removed from the body via urine.

💧 2. Regulation of Water and Salt Balance

- Kidneys adjust the amount of water and salts (Na^+, K^+, Cl^-) reabsorbed into the blood.
- This keeps the blood pressure and blood volume stable.
- Osmoregulation is under hormonal control (e.g. ADH and Aldosterone).

⚖️ 3. Regulation of Blood pH (Acid–Base Balance)

- Normal blood pH = 7.35 – 7.45
- Kidneys secrete hydrogen ions (H^+) and reabsorb bicarbonate ions (HCO_3^-) to control pH.
- This prevents acidosis or alkalosis, keeping enzyme function stable.

🧬 4. Selective Reabsorption and Tubular Secretion

- In the nephron, useful substances like glucose,

amino acids, and salts are reabsorbed.

- Harmful substances and extra ions are secreted back into renal tubule.
- This keeps the internal environment clean and balanced.

🔁 5. Hormonal Involvement

ADH (Anti-Diuretic Hormone): Increases water reabsorption during dehydration.

Aldosterone: Promotes sodium reabsorption and potassium excretion.

Both hormones help regulate electrolyte composition and fluid levels in blood.

🌟 Q8: What are Kidney Stones?

📘 Definition:

Kidney stones are hard crystalline deposits formed when the urine becomes concentrated and certain salts (like calcium oxalate, uric acid, etc.) form crystals that cannot pass through urine. These crystals grow and become solid stones.

🔍 Causes of Kidney Stones:

1. Age: More common in middle-aged or older people.

2. Diet: Excessive intake of:

- Green leafy vegetables
- Salt
- Vitamins C and D

3. Low Water Intake: Dehydration causes urine to become concentrated.

4. Urinary Tract Infections: Recurring infections can trigger stone formation.

5. Alcohol Consumption: Disturbs the water and salt balance.

⚠ Symptoms of Kidney Stones:

1. Severe Pain:

In the kidney region or lower abdomen.

2. Vomiting and Nausea

3. Frequent Urination

4. Foul-Smelling Urine

5. Urine with Blood and Pus

💊 **Treatment of Kidney Stones:**

✅ **1. Natural Removal (90% cases):**

Drinking plenty of water helps in flushing out small stones.

🏥 **2. Surgical Removal:**

In severe cases, the stone is removed by surgery by opening the affected area.

💥 **3. Lithotripsy (Non-surgical method):**

Uses non-electrical shock waves from outside the body.

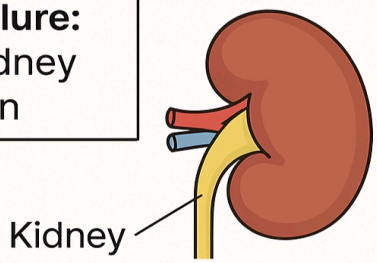
These waves break the stones into sand-like particles.

The broken particles are passed out naturally through urine.

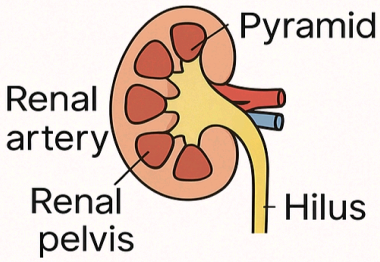
🌟 **Q9: What is Kidney (Renal) Failure?**

Answer:

Kidney failure:
Loss of kidney function



Causes
- Diabetes
- Hypertension
- Drug overdose



Symptoms
- Nausea
- Weight loss
- Blood in urine
- Swelling

Treatments
- Dialysis
- Kidney tansplant

📘 Definition:

Kidney failure is a condition in which one or both kidneys partially or completely lose their ability to function, i.e., they can no longer filter waste products from the blood.

🔍 Causes of Kidney Failure:

1. **Diabetes Mellitus:** High blood sugar damages kidney tissues.

2. **Hypertension** (High Blood Pressure): Damages blood vessels in kidneys.

3. **Sudden Interruption in Blood Supply:** Causes

acute kidney failure.

4. Drug Overdose: Certain medicines can harm kidney tissues.

⚠ Symptoms of Kidney Failure:

1. High Urea and Waste in Blood
2. Vomiting and Nausea
3. Weight Loss
4. Frequent Urination
5. Blood in Urine
6. Swelling: In legs, feet, and face due to fluid retention.
7. Shortness of Breath

💊 Treatment of Kidney Failure:

🧪 1. Dialysis:

Artificial removal of waste materials and excess water from the blood.

Two types:

Peritoneal Dialysis: Uses the peritoneal cavity of

the abdomen.

Haemodialysis: Blood is cleaned using a dialyzer (external machine).

🧬 2. Kidney Transplant:

- Damaged kidney is replaced with a healthy donor kidney.
- Donor can be living or deceased.
- Transplanted kidney is connected to patient's urinary and blood system.
- May require immunosuppressant drugs to prevent rejection.

Note:

This chapter is designed to provide a solid foundation of knowledge, with the goal of deepening understanding and encouraging further exploration of the subject. The content has been carefully selected to support effective learning and inspire students to engage with the topic more

deeply.

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Purpose: To contribute to education by offering insightful, valuable content that enhances learning and understanding.

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