



# BIOLOGY

## BOOKS - EVERGREEN BIOLOGY (ENGLISH)

### SELF ASSESSMENT PAPER 1

#### Section I A

1. Give technical term for:

The process of uptake of mineral ions against

the concentration gradient using energy from cell.



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2. Name the following:

The form in which glucose is stored in liver.



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3. Name the following:

The vein that carries oxygenated blood.



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4. Name the following:

The hormone that regulates the basal metabolic rate.



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5. The part of ear responsible for static balance is



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## Section I B

1. Match the items in Column A with that which is most appropriate in Column B.

Rewrite the matching pair.

Column A	Column B
(1) Pituitary gland	(a) Kidney
(2) Guttation	(b) Water vapour
(3) Transpiration	(c) Prostate gland
(4) Clotting of blood	(e) Iron
(5) Uriniferous tubule	(e) Uterus
	(f) Growth hormone
	(g) Salk's vaccine
	(h) Water droplet
	(i) Calcium
	(j) Hydathodes



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## Section I C

1. Choose the ODD one out of the following terms given and name the CATEGORY to which the others belong :

Aqueous humour, Vitreous humour, Iris,  
Central canal



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2. Identify the odd term in each set and name the category to which the remaining 3 belong.

Example: Ovary, Fallopian tube, Ureter, Uterus.

Odd term: Ureter

Category: Parts of female reproductive system.

Pulmonary vein, Hepatic vein, Renal vein, Post  
caval



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3. Choose the ODD one out of the following terms given and name the CATEGORY to which the others belong :

(I) ACTH, TSH, ADH, FSH

(iii) Insulin, Adrenaline, Pepsin, Thyroxine.



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4. Choose the odd one out of the following set of terms given and name the category to which the others belong:

(i) Phosphate, RNA, Sugar, Nitrogenous base.

(ii) Urethra, uterus, urinary bladder, ureter.

(iii) Cyton, Photon, Axon, Dendron.

(iv) Haemoglobin, glucagon, iodopsin,

rhodopsin.

(v) Dendrites, Medullary Sheath, Axon, Spinal cord.



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5. Choose the ODD one out of the following terms given and name the CATEGORY to which the others belong :

Bile, Urea, Uric acid, Ammonia



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## Section I D

1. What is the exact location of Centromere.



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2. State the exact location of the following

Chordae tendinae



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**3. Give the exact location of the following :**

Thyroid gland



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**4. State the exact location of the following structures:**

Ciliary body



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5. (b) Mention the exact location of the following:

(i) Proximal convoluted tubule.

(ii) Lacrimal gland

(iii) Malleus

(iv) Hydathodes

(v) Semilunar valve



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**Section I E Choose The Correct Answer From The Four Options Given Below**

1. Which one of the following is mainly associated with the maintenance of the posture ?

A. Cerebrum

B. Cerebellum

C. Thalamus

D. Pons

**Answer:**



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2. Choose the correct answer to the given statement from the four choices given below the statement:

The number of Spinal nerves in a human being are :

A. 31 pairs

B. 10 pairs

C. 12 pairs

D. 30 pairs

**Answer:**



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3. Which of the following is not a natural reflex?

A. Knee-jerk

B. Blinking of eyes due to strong light

C. Salivation at the sight of food

D. Sneezing when any irritant enters the  
nose

**Answer:**



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**4. Aqueous humour is present between the :**

- A. Lens and Retina
- B. Iris and Lens
- C. Cornea and Iris
- D. Cornea and Lens

**Answer:**



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5. A cell has 5 pairs of chromosomes. After mitotic division, the number of chromosomes in daughter cell will be

A. Five

B. Ten

C. Twenty

D. Forty

**Answer:**





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## Section I F

1. Given below is an example of a certain structure and its special functional activity. On a similar pattern fill in the blanks with suitable functions:

Example : Chloroplast and Photosynthesis :

Xylem and \_\_\_\_\_



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2. Given below is an example of a certain structure and its special functional activity. On a similar pattern fill in the blanks with suitable functions:

Example : Chloroplast and Photosynthesis :

Ciliary Body and \_\_\_\_\_



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3. Given below is an example of certain structures and their special functional

activities. For example: Eye and vision. On a similar pattern, complete the following:

(i) Neutrophils:

(ii) Ureter:

(iii) Neurotransmitters:

(iv) Iris of the eye:

(v) Placenta:



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**4.** Given below is an example of a certain structure and its special functional activity. On

a similar pattern fill in the blanks with suitable functions:

Example : Chloroplast and Photosynthesis :

Thyroid gland and \_\_\_\_\_



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5. Given below is an example of a certain structure and its special functional activity. On a similar pattern fill in the blanks with suitable functions:

Example : Chloroplast and Photosynthesis :

Eustachian Tube and \_\_\_\_\_



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## Section I G

1. Given below are five groups of terms. In each group arrange and rewrite the terms in the correct order so as to be in a logical sequence.

For example:

Question : Implantation, Parturition,

Ovulation, Gestation, Fertilization.

Answer: Ovulation, Fertilization, Implantation,  
Gestation, Parturition.

Spongy cells, Upper epidermis, Stoma, Palisade  
tissue, Substomatal space.



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2. Given below are five groups of terms. In each  
group arrange and rewrite the terms in the  
correct order so as to be in a logical sequence.

For example:

Question : Implantation, Parturition, Ovulation, Gestation, Fertilization.

Answer: Ovulation, Fertilization, Implantation, Gestation, Parturition.

Spinal cord, Motor neuron, Receptor, Effector, Sensory neuron.



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**3. Write in a logical sequence**

Endodermis, Cortex, Soil water, Xylem, Root hair



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4. Rewrite the terms in correct order so as to be in a logical sequence. Metaphase, Telophase, Prophase, Anaphase, Cytokinesis.



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5. Rewrite the terms in correct order so as to be in a logical sequence.

Intestine, Liver, Intestinal artery, Hepatic vein, Hepatic portal vein.

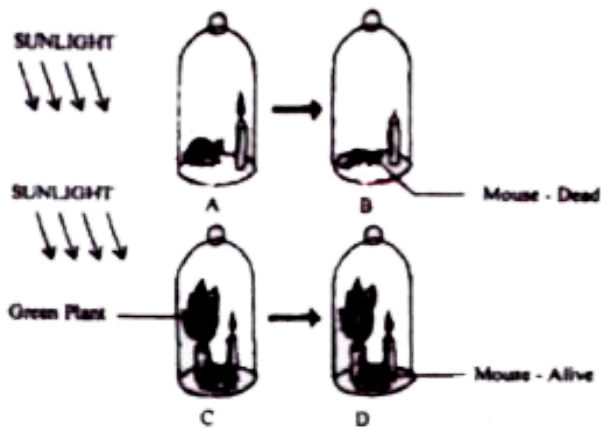




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## Section I H

1. The diagrams given below represent the relationship between a mouse and a physiological process that occurs in green plants. Study the diagrams and answer the questions that follow

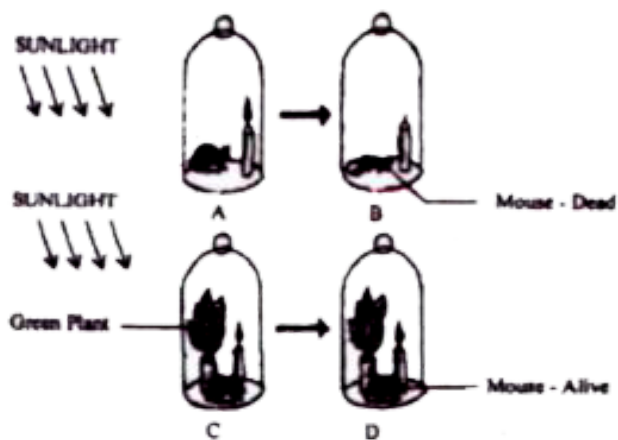


Name the physiological process occurring in the green plant that has kept the mouse alive

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2. The diagrams given below represent the relationship between a mouse and a physiological process that occurs in green

plants. Study the diagrams and answer the questions that follow

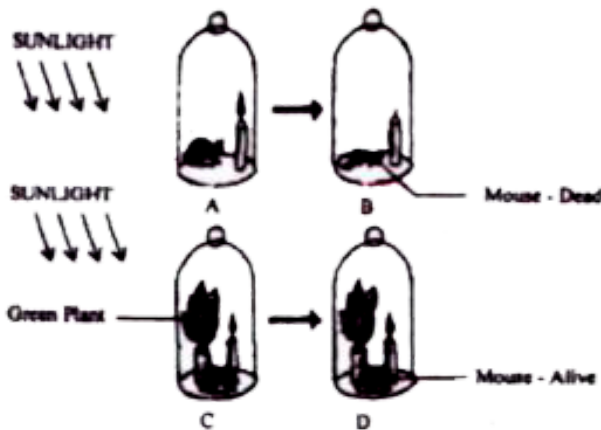


Explain the physiological process mentioned above



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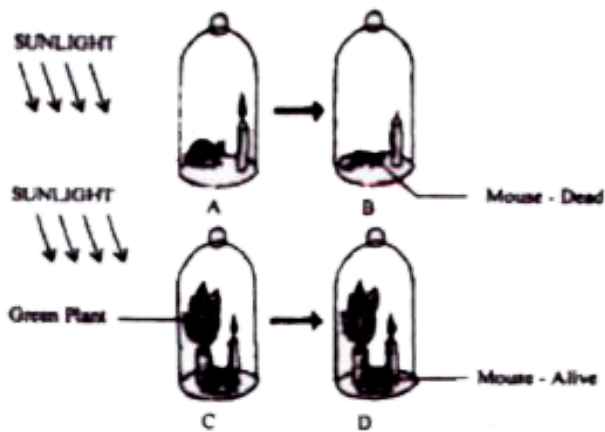
3. The diagrams given below represent the relationship between a mouse and a physiological process that occurs in green plants. Study the diagrams and answer the questions that follow



Why did the mouse die in bell jar B?

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4. The diagrams given below represent the relationship between a mouse and a physiological process that occurs in green plants. Study the diagrams and answer the questions that follow

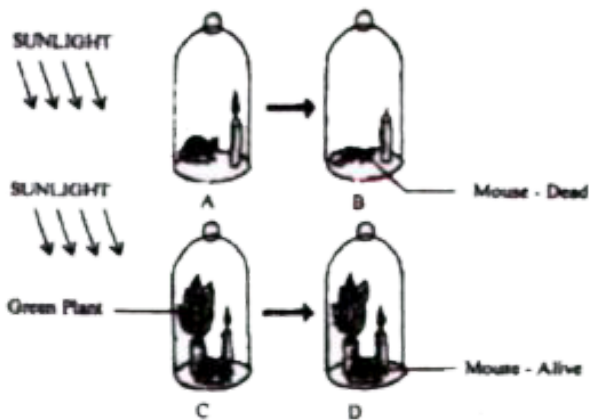


What is the significance of the process as stated in ( for life on earth?



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5. The diagrams given below represent the relationship between a mouse and a physiological process that occurs in green plants. Study the diagrams and answer the questions that follow



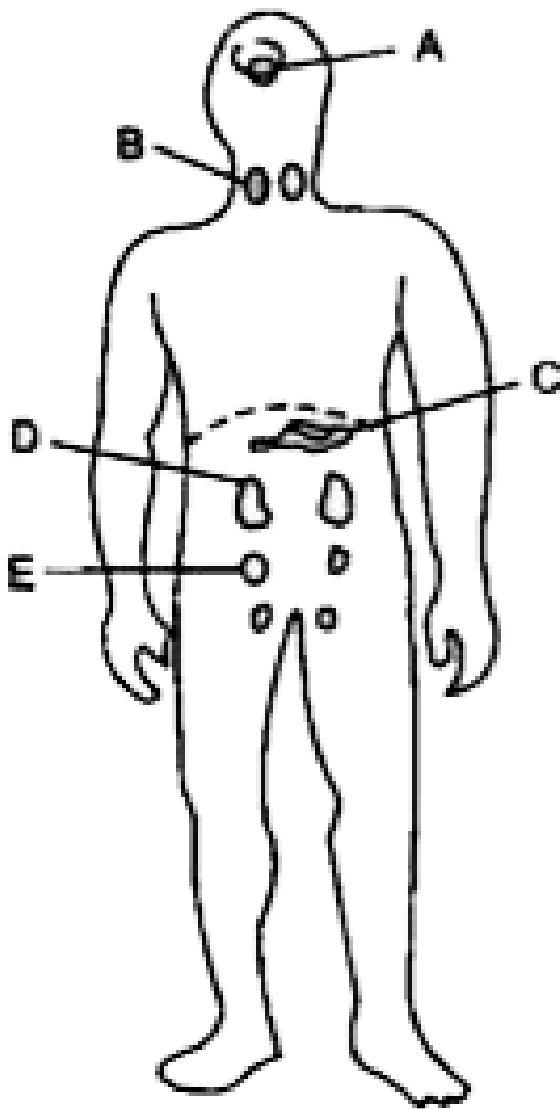
Represent the above mentioned physiological process in the form of a chemical equation



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## Section II A

1. Given below is the outline of the human body showing the important glands:



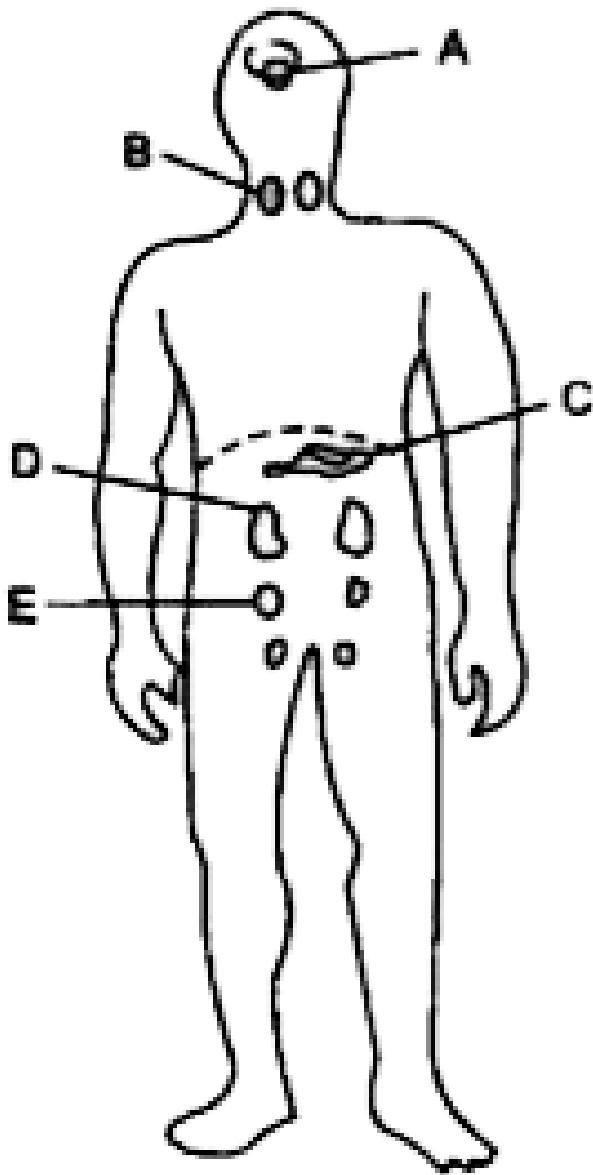
Name the glands marked A to E.



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**2. Given below is the outline of the human body showing the important glands:**

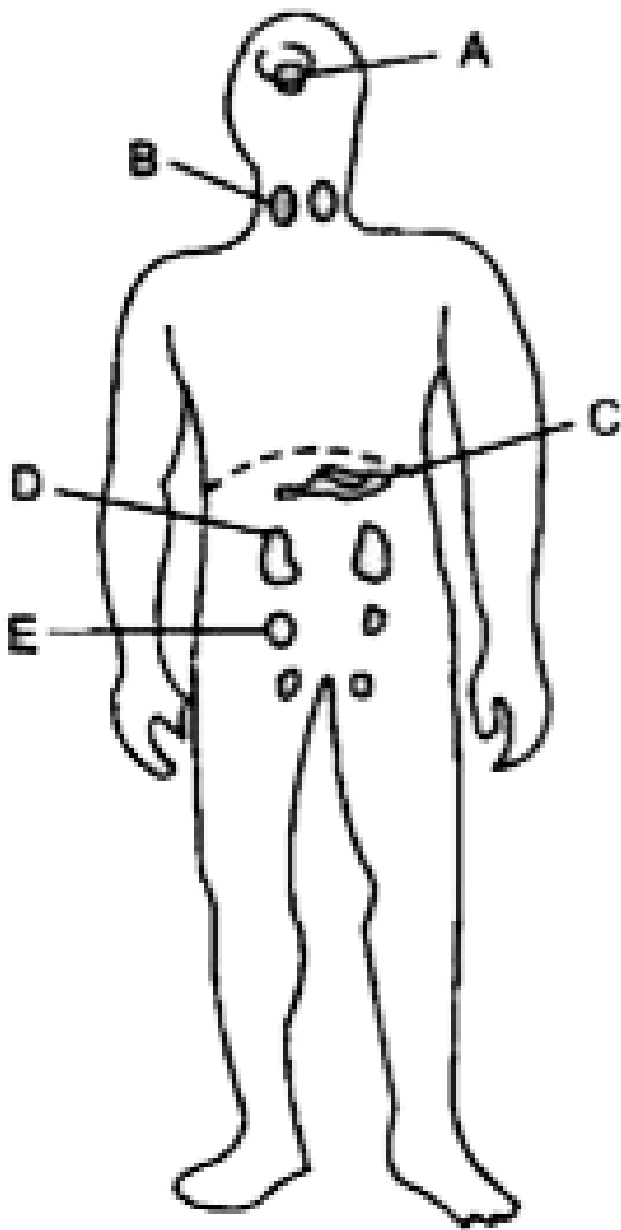


Name the hormone secreted by part B. Give one important function of this hormone.



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**3.** Given below is the outline of the human body showing the important glands:

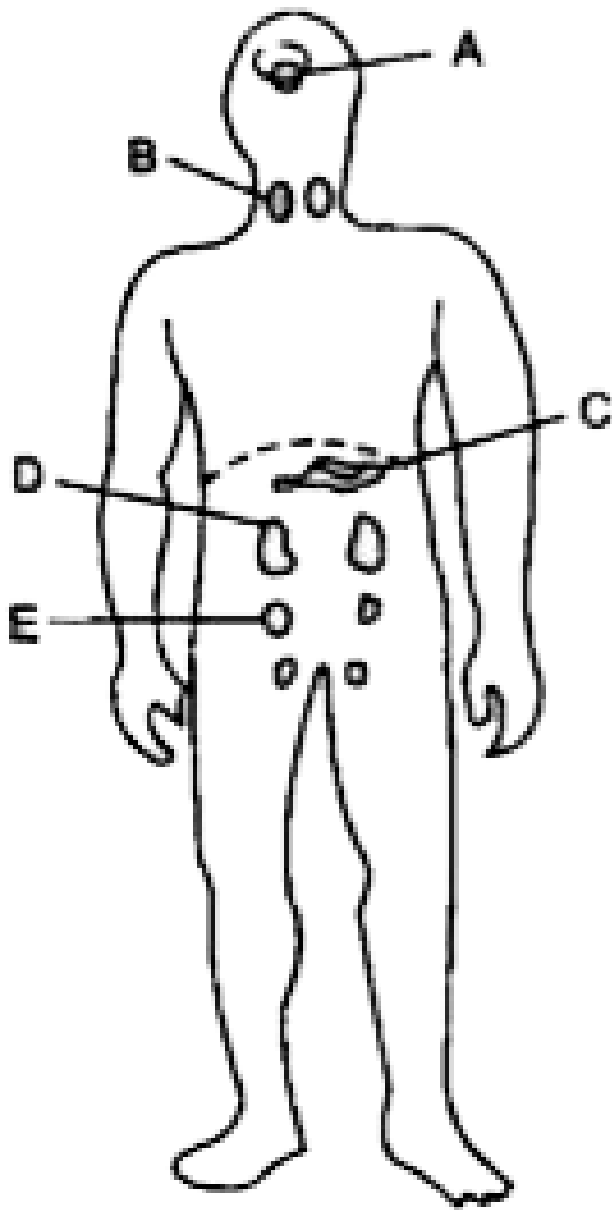


Name the endocrine part of the numbered C.



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4. Given below is the outline of the human body showing the important glands:



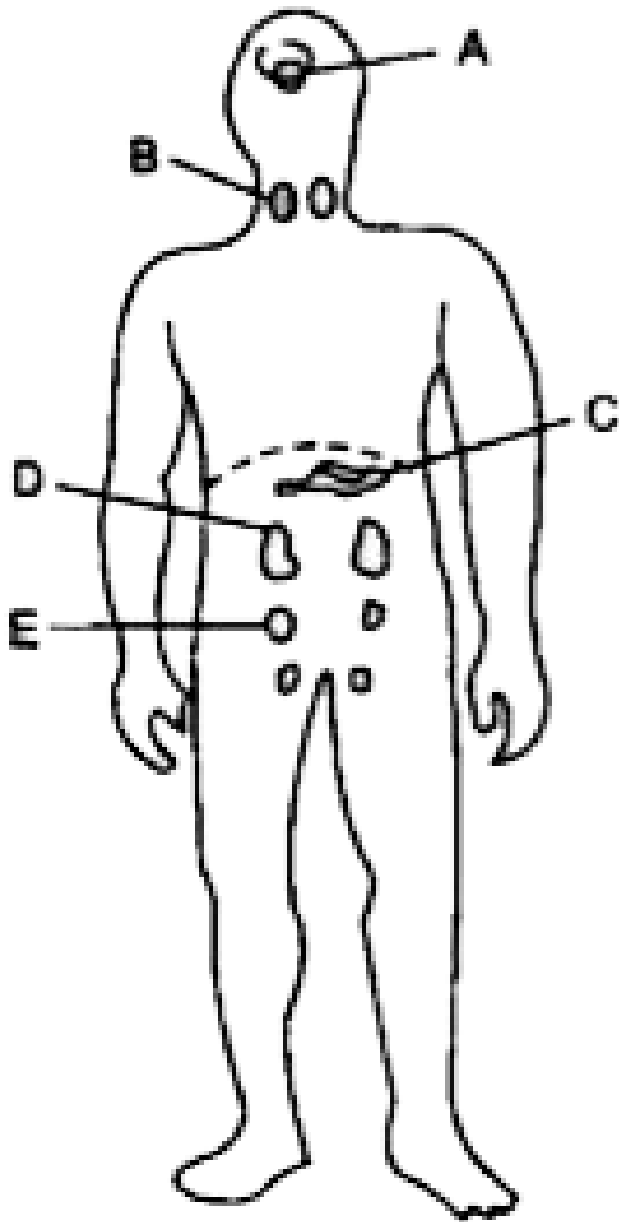
Why is the part labelled A called the master

gland? Which part of the forebrain controls the gland labelled A?



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5. Given below is the outline of the human body showing the important glands:



Name the gland that secretes the 'emergency hormone.





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## Section II B

1. Give the biological/technical terms for the following:

Chemicals found in the blood which act against antigens.



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2. Give the biological/technical terms for the following

;;Pigment providing colour to urine.



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3. Name the following:

The vein which drains the blood from the intestine to the liver



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4. The repeating components of each DNA strand lengthwise.



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5. Give biological reasons for the following :

The fluid present between the layers of meninges.



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6. The permanently open structures seen on the bark of an old woody stem



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7. Give technical term for:

The process of uptake of mineral ions against the concentration gradient using energy from cell.



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**8.** Give biological reasons for the following :

The change in an organism resulting due to stimulus.



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**9.** Give the biological/technical terms for the following:

An Antiseptic substance present in tears.



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**10.** Give the biological/technical term for the following :

A solution in which the relative concentration of water molecules and the solute on either side of the cell is the same.

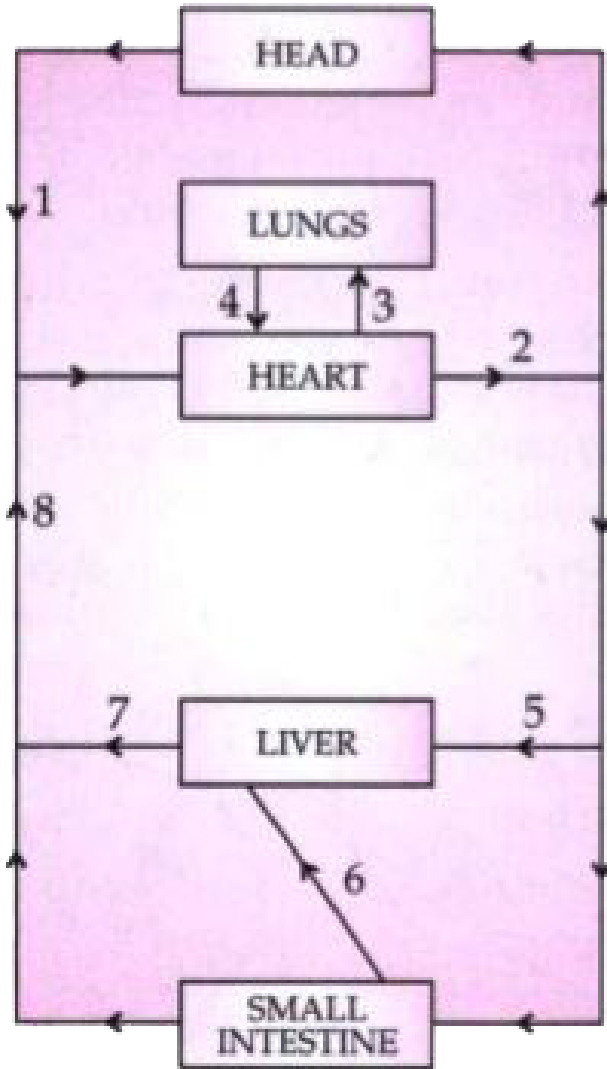


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## Section li 3 A

**1.** The diagram below represents the simplified pathway of the circulation of blood. Study the

same and answer the questions that follow :



Name the blood vessels labelled 1 and 2.



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2. The diagram given below represents the simplified pathway of the circulation of blood.

Study the same and answer the questions that follow :



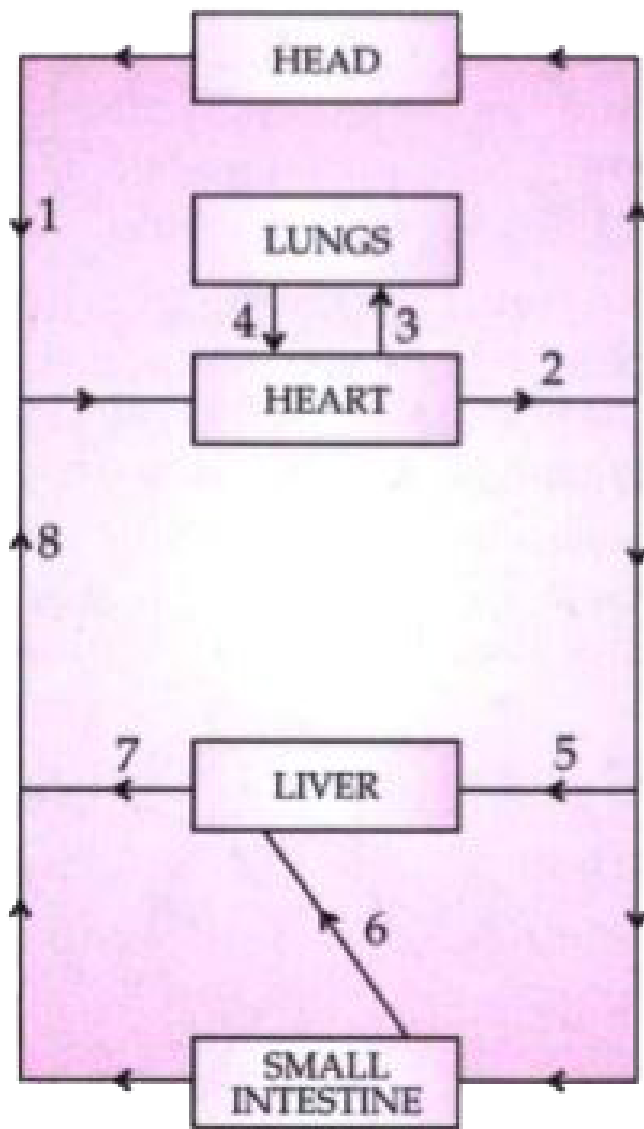
State the function of blood vessels labelled 5 and 8



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**3.** The diagram below represents the simplified pathway of the circulation of blood. Study the same and answer the questions that follow :

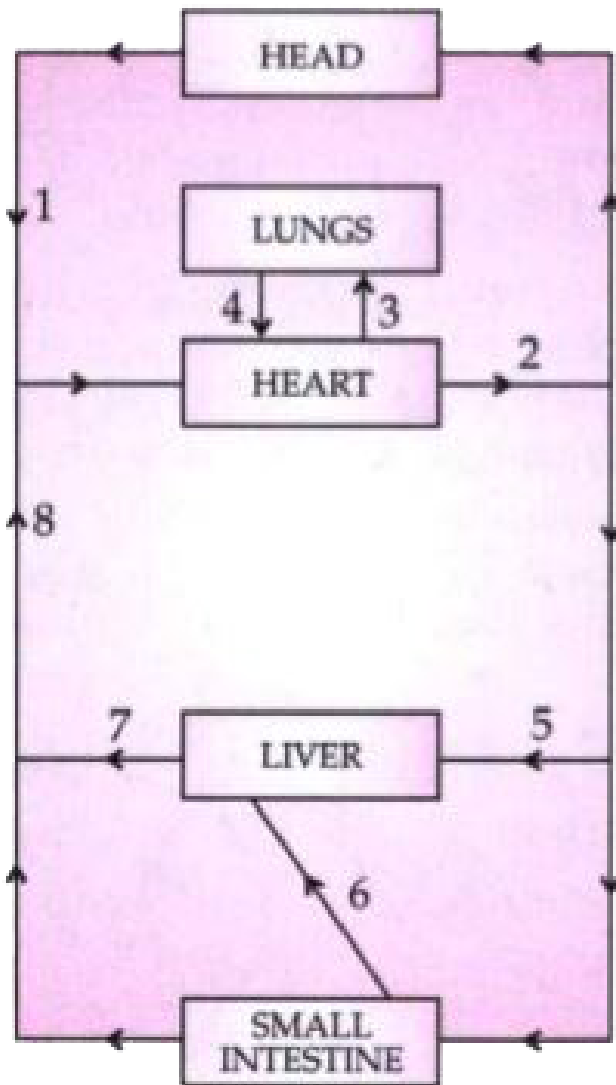


What is the importance of the blood vessel labelled 6?



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4. The diagram below represents the simplified pathway of the circulation of blood. Study the same and answer the questions that follow :

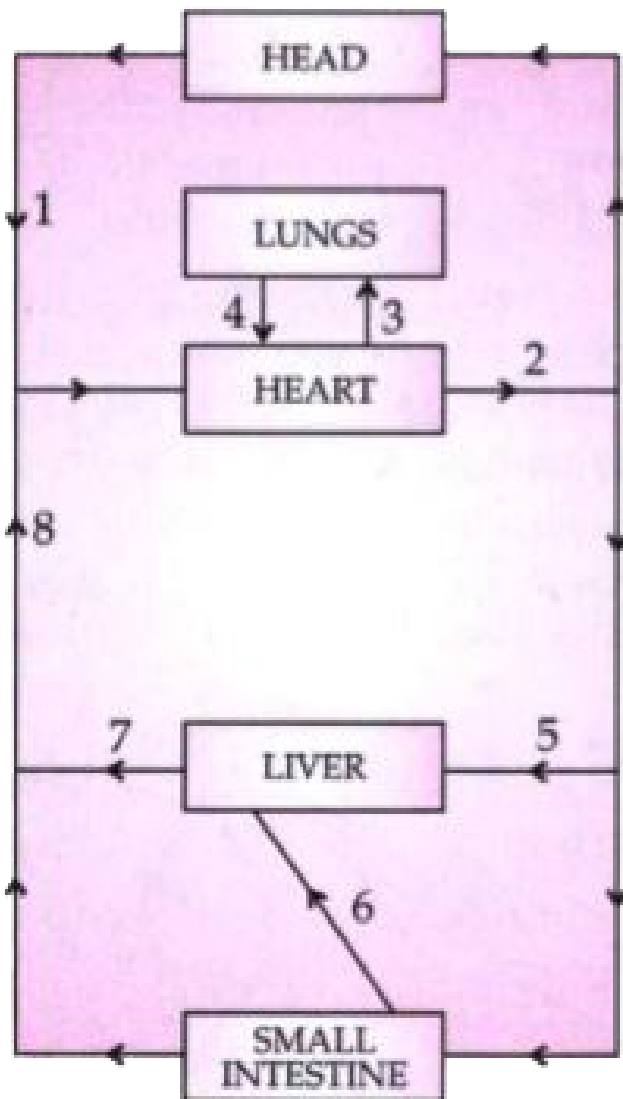


Which blood vessel will contain a high amount of glucose and amino acids after a meal ?



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5. The diagram below represents the simplified pathway of the circulation of blood. Study the same and answer the questions that follow :



Draw a diagram of the different blood cells as seen in a smear of human blood.



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## Section li 3 B

1. Differentiate between the following pairs on the basis of what is mentioned within brackets:

Diffusion and Osmosis (Definition)



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**2. Differentiate between the following pairs on the basis of what is mentioned within brackets :**

RBC and WBC (Shape)



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**3. Differentiate as directed :**

Pure and hybrid strain (Definition).



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4. Differentiate between the following:

Vasopressin and Insulin (Deficiency disorder)



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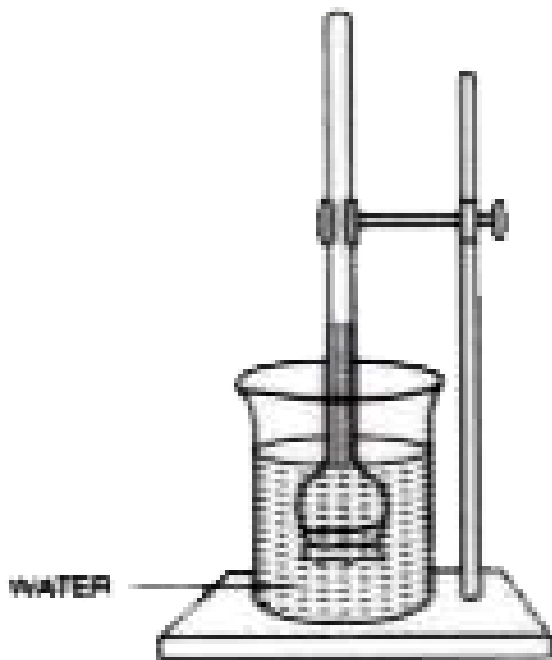
5. Give one difference between the following pairs on the basis of what is given in brackets :

Rods and Cones (Pigment present)



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1. The diagram given below represents an experimental set-up to demonstrate a vital process. Study the same and then answer the questions that follow :

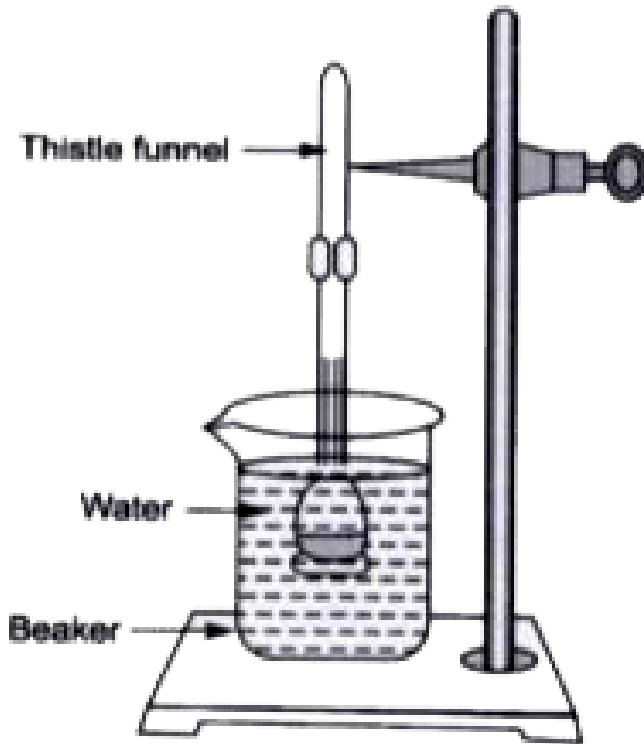


Name the process.



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2. Given alongside is the diagram of an apparatus set-up to study a very important physiological process.

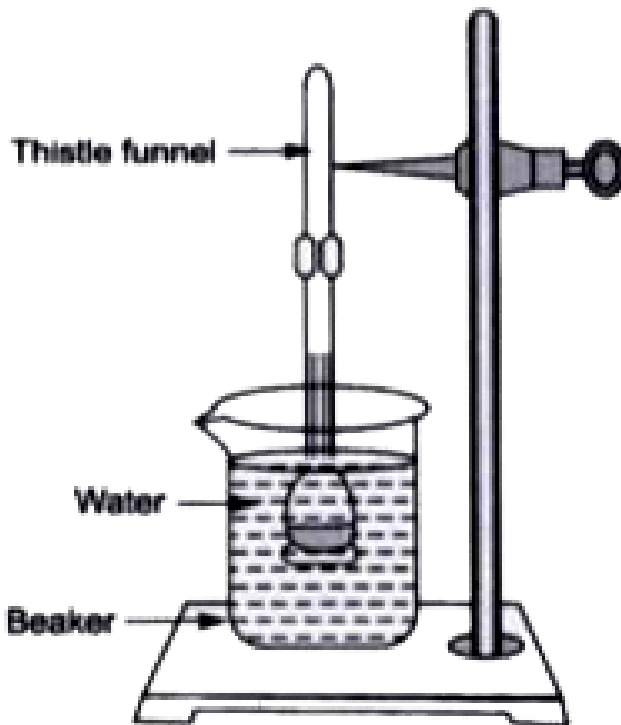


Is sugar solution hypotonic or hypertonic?



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3. Given alongside is the diagram of an apparatus set-up to study a very important physiological process.

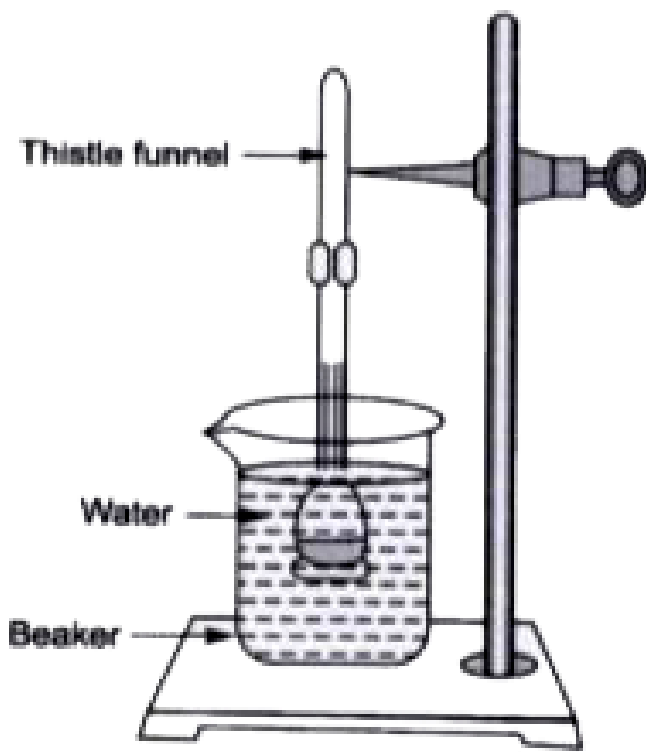


What changes would you observe in the thistle funnel containing sugar solution after about 10 minutes?



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4. Given alongside is the diagram of an apparatus set-up to study a very important physiological process.

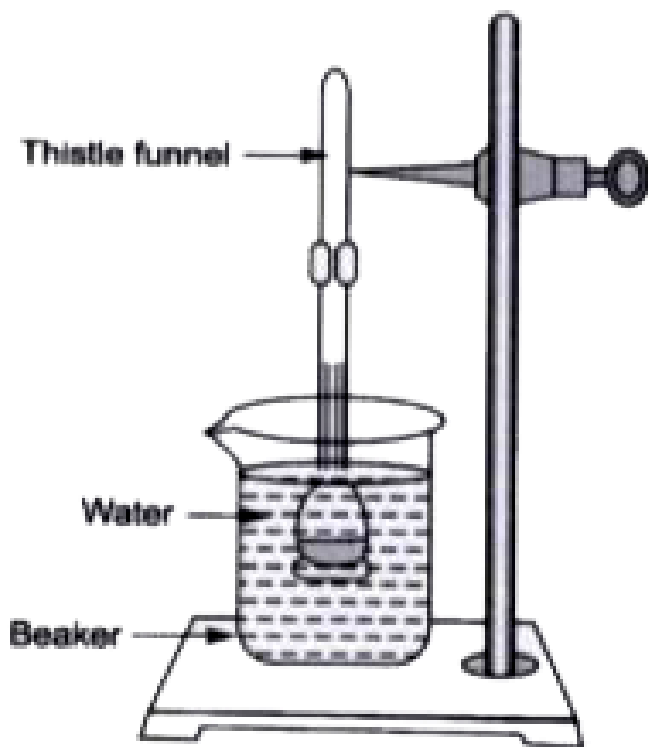


Is sugar solution hypotonic or hypertonic?



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5. Given alongside is the diagram of an apparatus set-up to study a very important physiological process.

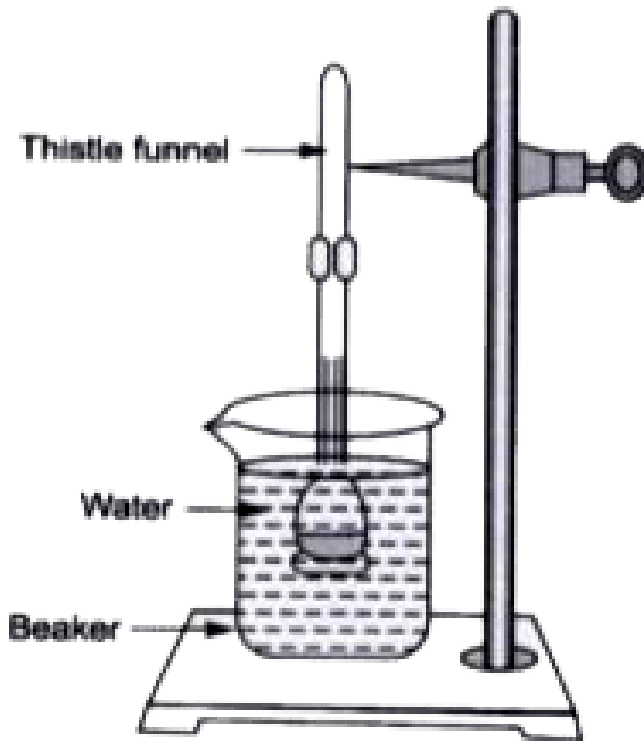


Is sugar solution hypotonic or hypertonic?



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6. Given alongside is the diagram of an apparatus set-up to study a very important physiological process.



Is sugar solution hypotonic or hypertonic?

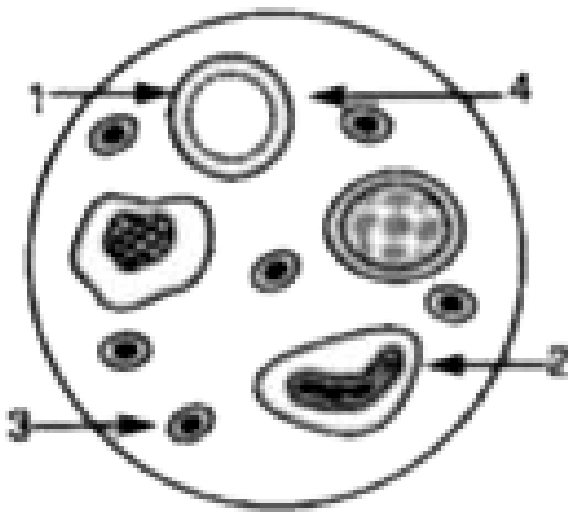




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## Section li 4 B

**1.** Given below is a diagram of a human blood smear. Study the diagram and answer the questions that follow:

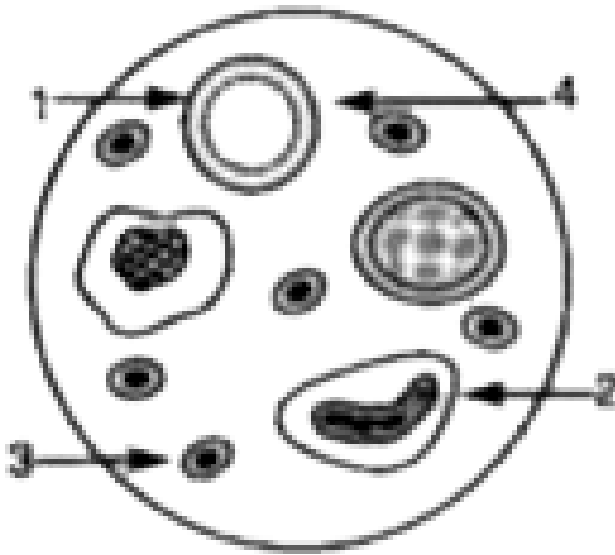


**Smear of human blood**

Name the components numbered 1 to 4.

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2. Given below is a diagram of a human blood smear. Study the diagram and answer the questions that follow:



## Smear of human blood

Mention two structural differences between the parts '1' and 2.



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3. Given below is a diagram of a human blood smear. Study the diagram and answer the questions that follow:

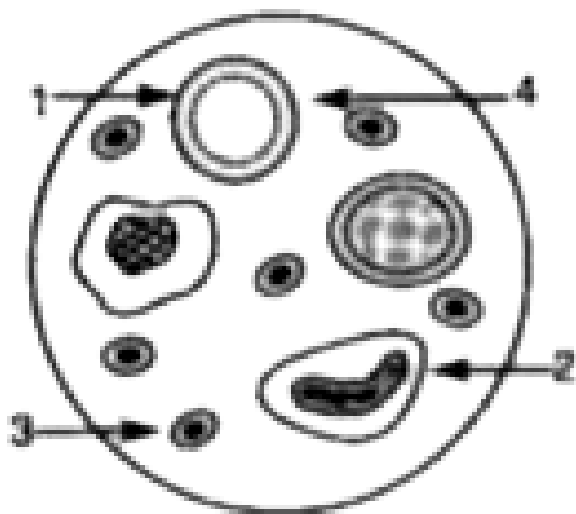


Name the soluble protein found in part 4 which forms insoluble threads during clotting of blood



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4. Given below is a diagram of a human blood smear. Study the diagram and answer the questions that follow:



**Smear of human blood**

What is the average lifespan of the component numbered '1' ?



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5. Given below is a diagram of a human blood smear. Study the diagram and answer the questions that follow:

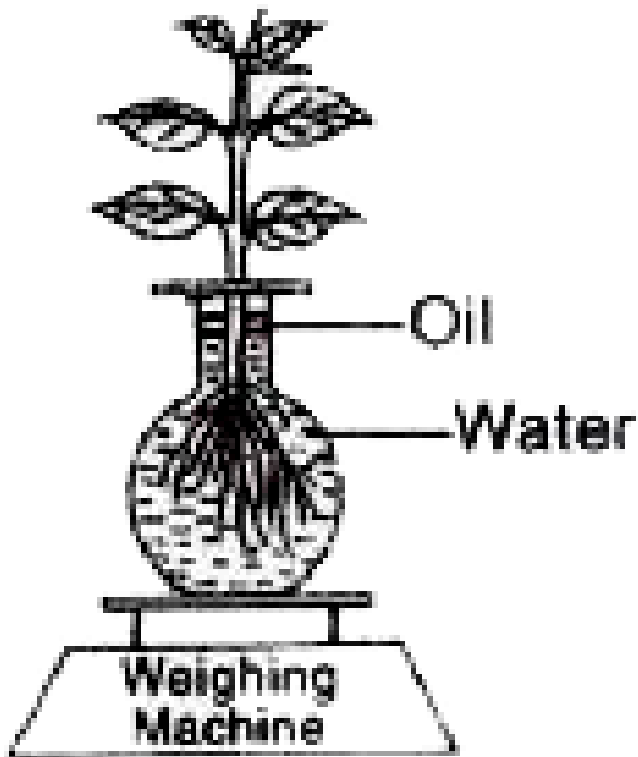


Component numbered '1' do not have certain organelles but are very efficient in their function Explain.



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1. The diagram below represents a process in plants. The setup was placed in bright sunlight. Answer the following questions :



Name the physiological process depicted in

the diagram .

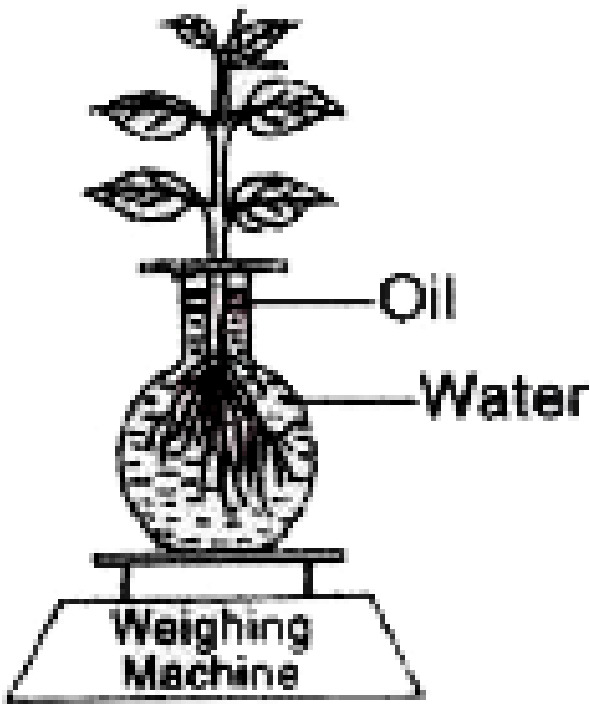
Why was oil added to the water?



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2. The diagram below represents a process in plants. The setup was placed in bright sunlight. Answer the following questions :





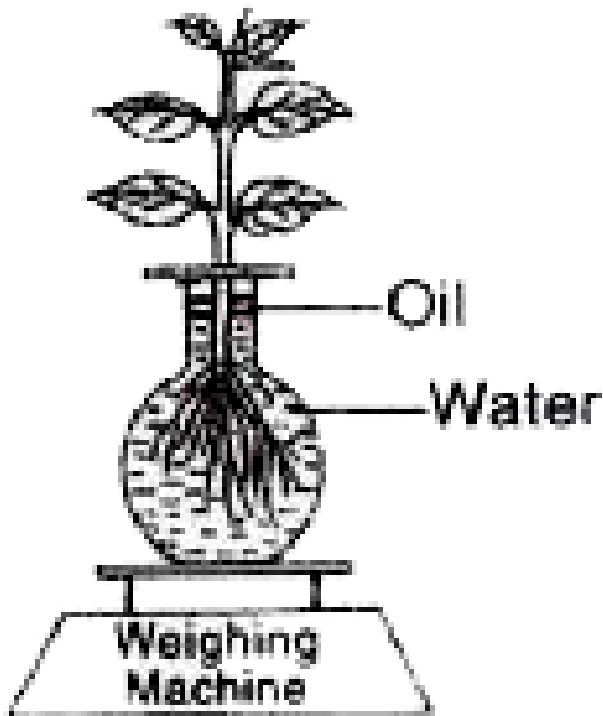
When placed in bright sunlight for four hours, what do you observe with regard to the initial and final weight of the plant?

Give a suitable reason for your answer.



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3. The diagram below represents a process in plants. The setup was placed in bright sunlight. Answer the following questions :



What happens to the level of water when this

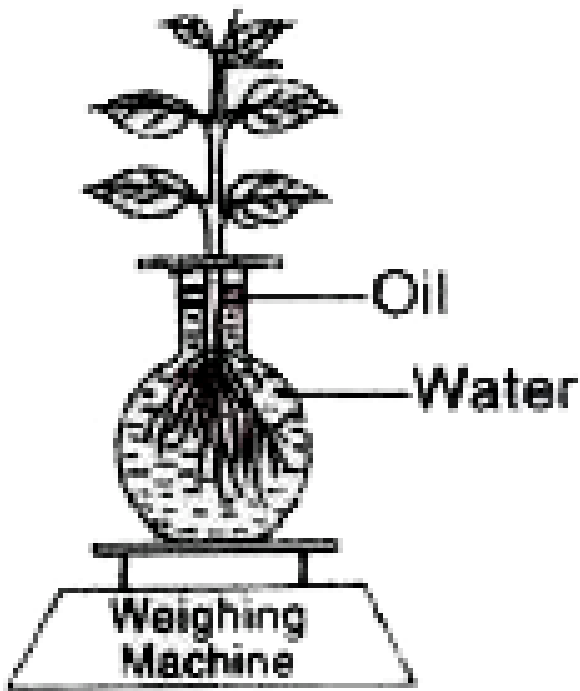
setup is placed in:

1. Humid conditions? 2. Windy conditions?



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4. The diagram below represents a process in plants. The setup was placed in bright sunlight. Answer the following questions :

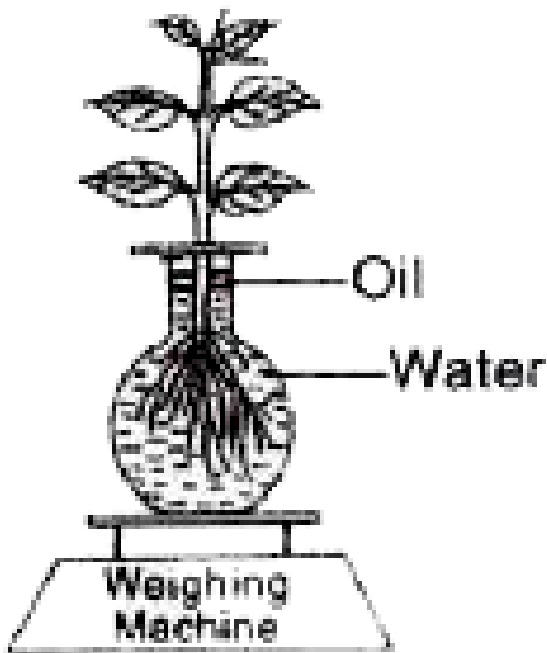


Mention any three adaptations found in plants to overcome this process?



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5. The diagram below represents a process in plants. The setup was placed in bright sunlight. Answer the following questions :



Explain the term 'Guttation'



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## Section II 5 B

1. Draw a diagram of the human eye as seen in a vertical section and label the parts which suits the following descriptions relating to the :

Photosensitive layer of the eye.



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2. Draw a diagram of the human eye as seen in a vertical section and label the parts which

suits the following descriptions relating to the

:

Structure which is responsible for holding the eye lens in its position.



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**3.** Draw a diagram of the human eye as seen in a vertical section and label the parts which suits the following descriptions relating to the

:

Structure which maintains the shape of the eye ball and the area of no vision.



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4. Draw a diagram of the human eye as seen in a vertical section and label the parts which suits the following descriptions relating to the :

Anterior chamber seen in front of the eye lens.



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5. Draw a diagram of the human eye as seen in a vertical section and label the parts which suits the following descriptions relating to the :

Anterior chamber seen in front of the eye lens.



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## Section II 6 A

1. Draw a well labelled diagram of the membranous labyrinth found in the inner ear.



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2. Based on the diagram drawn above in (i) give a suitable term for each of the following description:

The sensory cells that help in hearing.



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3. Based on the diagram drawn above in membranous labyrinth give a suitable term for

each of the following descriptions: (1) The sensory cells that helps in hearing. (2) The part that is responsible for static balance of the body. (3) The membrane covered opening that connects the middle ear to the inner ear. (4) The fluid present in the middle chamber of cochlea. (5) The structure that maintains dynamic equilibrium of the body.



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4. Based on the diagram drawn above in (i) give a suitable term for each of the following description:

The membrane covered opening that connects the middle ear to the inner ear.



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5. Based on the diagram drawn above in membranous labyrinth give a suitable term for each of the following descriptions: (1) The

sensory cells that helps in hearing. (2) The part that is responsible for static balance of the body. (3) The membrane covered opening that connects the middle ear to the inner ear. (4) The fluid present in the middle chamber of cochlea. (5) The structure that maintains dynamic equilibrium of the body.



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6. Based on the diagram drawn above in membranous labyrinth give a suitable term for

each of the following descriptions: (1) The sensory cells that helps in hearing. (2) The part that is responsible for static balance of the body. (3) The membrane covered opening that connects the middle ear to the inner ear. (4) The fluid present in the middle chamber of cochlea. (5) The structure that maintains dynamic equilibrium of the body.



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**Section II 6 B**

1. Explain the term Reflex action.



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2. Briefly explain the following terms:

Power of accommodation



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3. Briefly explain the following:

Photophosphorylation



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4. Briefly explain the following terms:

Hormone



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5. Briefly explain the following terms:

Synapse

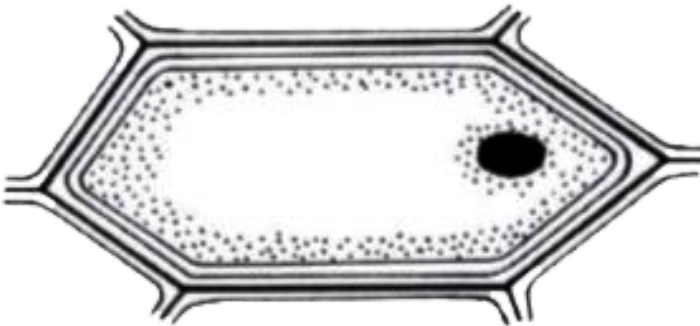


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## Section II 7 A

1. The figure given below shows the epidermal cells of an onion bulb. This cell was then transferred to a drop of sugar solution.

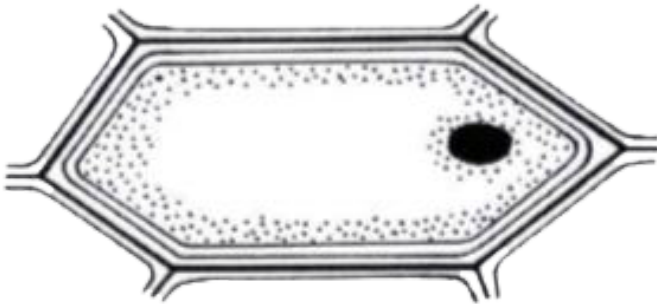


Draw a well labelled diagram of the epidermal cell as it would appear after immersion in a strong sugar solution.



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2. The figure given below shows the epidermal cells of an onion bulb. This cell was then transferred to a drop of sugar solution.

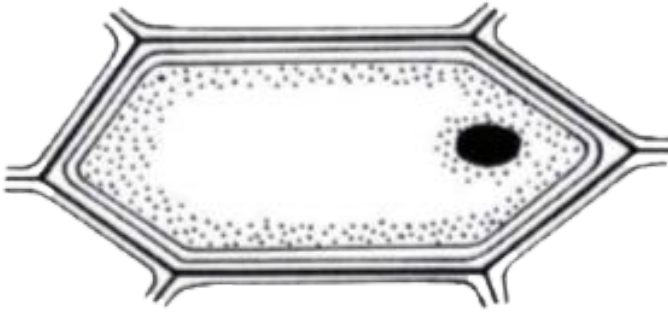


What scientific term is used for the changes as shown in epidermal cell as it would appear after immersion in a strong sugar solution.



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3. The figure given below shows the epidermal cells of an onion bulb. This cell was then transferred to a drop of sugar solution.

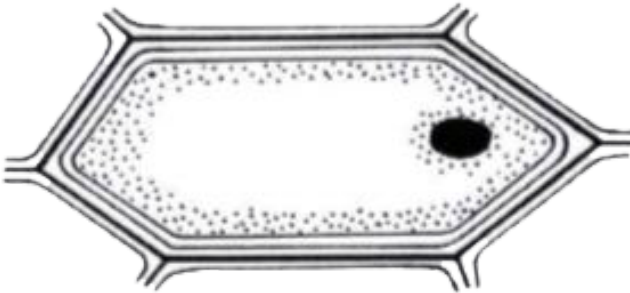


What should be done to restore the cell back to its original condition ?



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4. The figure given below shows the epidermal cells of an onion bulb. This cell was then transferred to a drop of sugar solution.

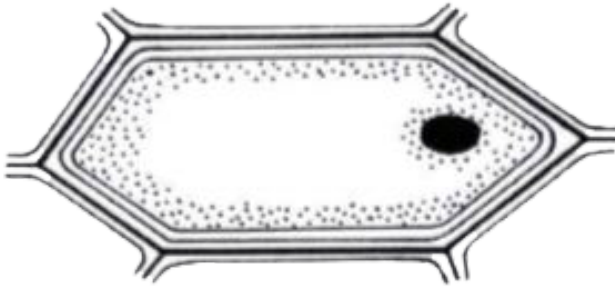


Give the scientific term for the recovery of the cell as a result of the restore the cell back to its original condition ?



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5. The figure given below shows the epidermal cells of an onion bulb. This cell was then transferred to a drop of sugar solution.



Define the term osmosis.



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Section II 7 B

**1. Give biological reason for the following:**

The wall of the ventricle is thicker than the auricles,



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**2. Give biological reason for the following:**

The renal cortex has a dotted appearance.



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**3. Comment upon the following :**

Wooden doors and windows swell up during the rainy season .



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**4. Give biological reason for the following:**

Throat infections could lead to ear infections.



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5. Give biological reasons for the following :

The hand automatically shows the direction to turn a cycle without thinking.



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