BIOLOGY

BOOKS - EVERGREEN BIOLOGY (ENGLISH)

SELF ASSESSMENT PAPER 4

Section I

1. The type of cell division which occurs in the cells of the reproductive organs.

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2. Which one of the following hcave sunken stomata ?

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3. A foreign body which induces the formation of antibodies in the body.

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4. The hormone that regulates the basal metabolic rate.

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5. Which of the following blood cells are responsible for the clotting of blood?

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6. Given below are sets of five terms each. In each case rewrite the terms in logical sequence as directed at the end of each statement.

Stoma, Mesophyll cells, Xylem, Substomatal space, Intercellular space (loss of water due to transpiration),

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7. Given below are five sets of five terms each. In each case, rewrite the terms in logical sequence as directed at the end of each statement. One has been done for you as an example.

Example: Anaphase, Telophase, Prophase, Metaphase, Interphase (Sequential order of karyokinesis) Answer: Interphase, Prophase, Metaphase, Anaphase, Telophase.

Motor neuron, Receptor, Sensory neuron, Effector, Association neuron (Pathway of a nerve impulse)

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8. Rewrite in a correct logical sequence :

Pupil, yellow spot, cornea, lens, aqueous humour (Path of entry of light into the eye from an object).

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9. Given below are sets of five terms each. In each case rewrite the terms in logical

sequence as directed at the end of each statement.

Stoma, Mesophyll cells, Xylem, Substomatal space, Intercellular space (loss of water due to transpiration),

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10. Write in a logical sequence

Cortical cells, roots hair, soil water, endodermis, xylem (entry of water into the plant from the soil).

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11. Mention the exact location of the following structures : Yellow spot.

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12. State main functions of :

Coronary artery

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13. A function controlled by the medulla oblongata _____

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14. State main functions of :

Thrombocytes

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15. Give the specific function of:

(i) Centrosome

(ii) Stoma

(iii) Transpiration

(iv) Ureter

(v) Vitreous humour

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16. The statement given below is incorrect. Rewrite the correct statement by changing the underlined words of the statement.

The cell sap of root hair is Hvpotonic.

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17. State whether the following statements are true or false. If false, rewrite the correct form of the statement by changing the first or last word only:

Nitrogen bonds are present between the complementary nitrogenous bases of DNA.

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18. State whether the following statements are true or false. If false, rewrite the correct form

of the statement by changing the first or last word only:

Centrosome is an organelle of the cell to initiate cell division.

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19. State whether the following statements are true or false. If false, rewrite the correct form of the statement by changing the first or last word only:

Urethra carries urine from the kidney to the urinary bladder.

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20. State whether the following statements are true or false. If false, rewrite the correct form of the statement by changing the first or last word only:

Lysosome is a part of the cell in which chromosomes are present.

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21. Rewrite and complete the following sentences by inserting the correct word in the space indicated:

..... is the phenomenon of contraction of the cytoplasm from the cell wall.

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22. Fill in the blanks :

The blood vessel that begins and ends in capillaries is the.....

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23. Fill in the blanks :

Wooden doors usually swell up during rainy season due to ..... .

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24. State whether the following statements are true or false. Rewrite the false statements in their correct form

The dark reaction of photosynthesis occurs during night time.

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25. Rewrite and complete the following sentences by inserting the correct word in the space indicated:

Each stomata bore is guarded by .....

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26. Match the items in Column I with that which is most appropriate in Column II.

Column I	Column II
(1) Pacemaker	(a) Associated with static body balance
(2) Stroma	(b) Chordae tendinae
(3) Afferent nerve	(c) Site of light reaction
(4) Prolactin	(d) Motor neuron
(5) Saccules	(e) S A node
	(f) Stimulates production of milk by the mammary gland
	(g) Site of dark reaction
	(h) Transmits impulses from receptor organ to spinal cord
	(i) Secreted by anterior lobe of Pituitary gland
	(j) Transfers impulses from spinal cord to muscles.

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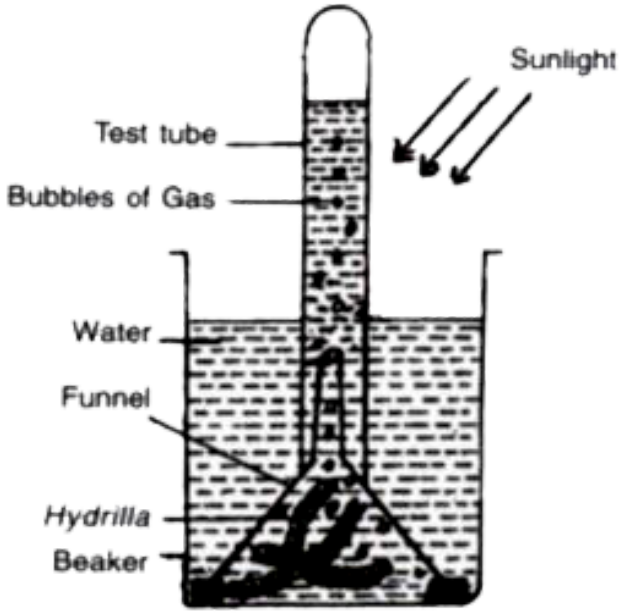
27. The figure below represents an experiment set-up to study a physiological process in plants



Name the physiological process being studied

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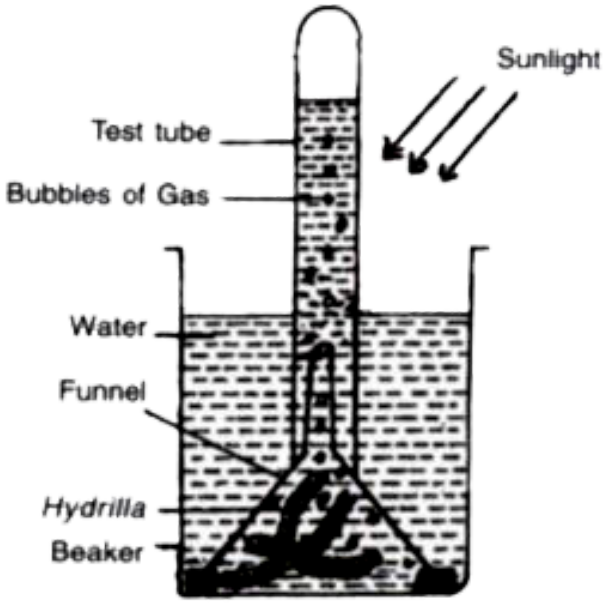
28. The figure below represents an experiment set-up to study a physiological process in plants



Explain the process,

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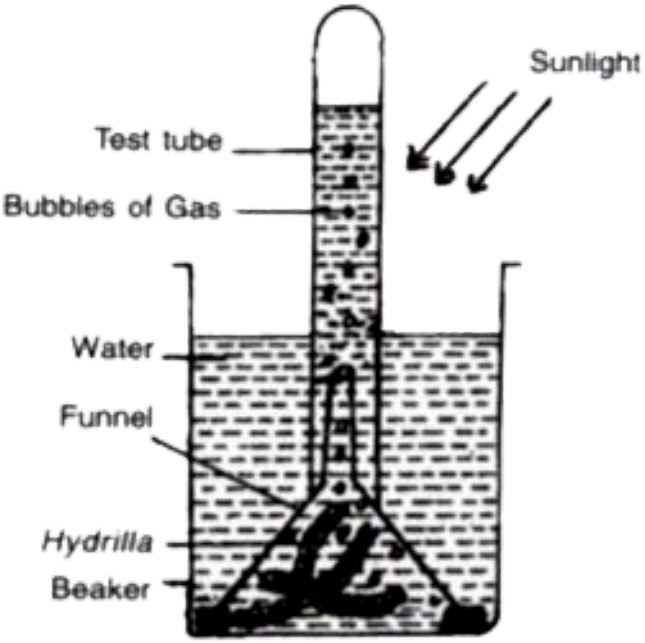
29. The figure below represents an experiment set-up to study a physiological process in plants



What is the aim of the experiment

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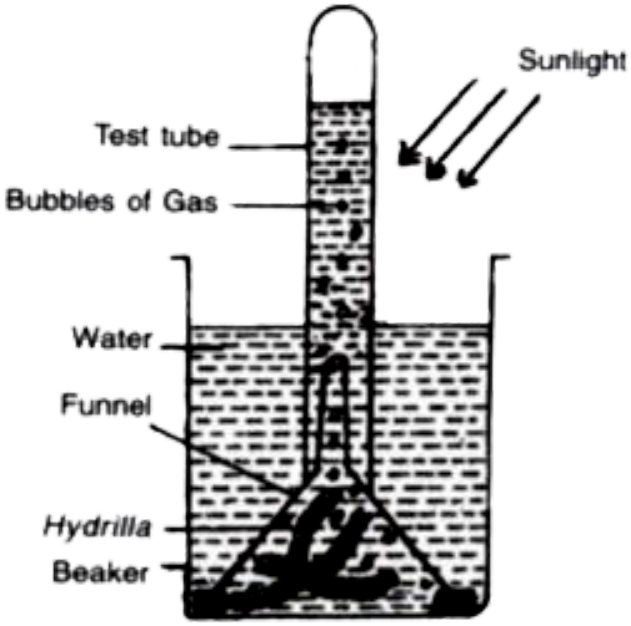
30. The figure below represents an experiment set-up to study a physiological process in plants



Give a well balanced equation to represent the process

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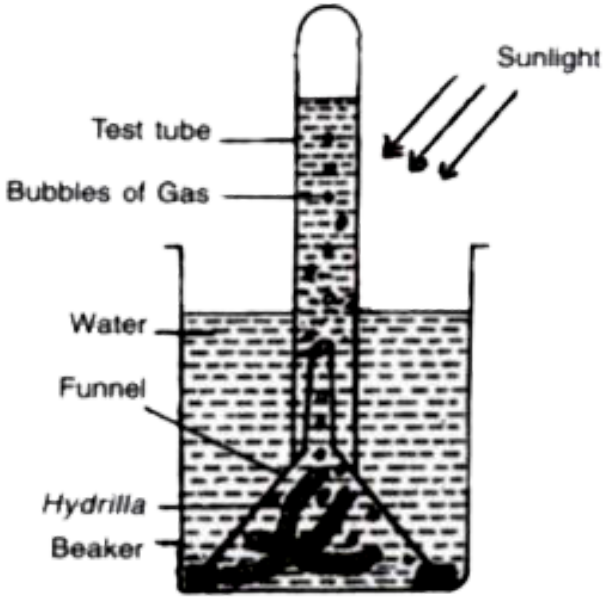
31. The figure below represents an experiment set-up to study a physiological process in plants



Explain the process,

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32. Given below is an example of a certain structure and its special functional activity:

Example: (0) Ribosomes and protein synthesis.

On a similar pattern, complete the following:

Hypothalamus and _____

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33. Given below is an example of a certain structure and its special functional activity:

Example: (0) Ribosomes and protein synthesis.

On a similar pattern, complete the following:

Suspensory ligaments and _____

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34. Given below is an example of a certain structure and its special functional activity: Example: (0) Ribosomes and protein synthesis. On a similar pattern, complete the following: Semicircular canals and _____

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35. Given below is an example of a certain structure and its special functional activity: “Kidney and excretion."

Fill in the blanks on a similar pattern.

Mitochondria and .....

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36. 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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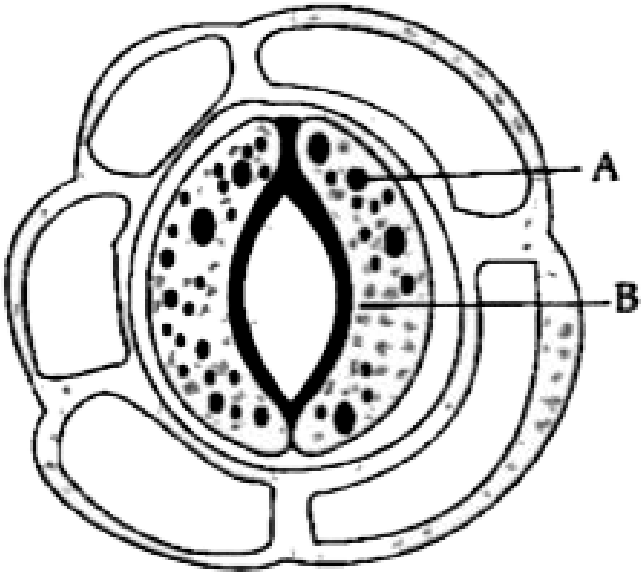
Section Ii

1. The diagram below represents a structure found in a leaf. Study the same and answer the questions which follow:



Name the parts labelled A and B.

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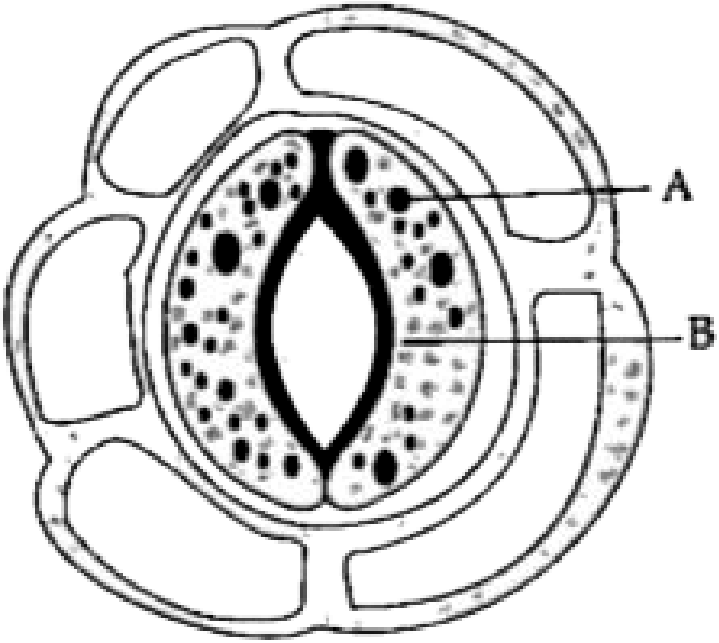
2. The diagram below represents a structure found in a leaf. Study the same and answer the questions which follow:



What is the biological term for the above structure?

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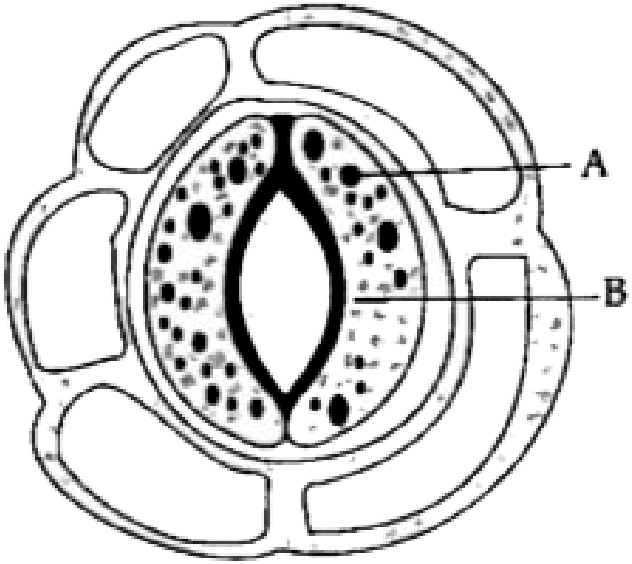
3. The diagram below represents a structure found in a leaf. Study the same and answer the questions which follow:



What is the function of the part labelled A?

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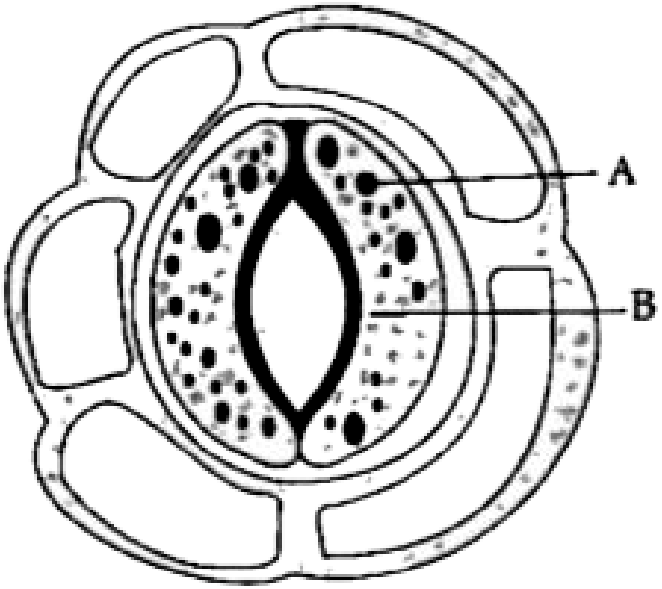
4. The diagram below represents a structure found in a leaf. Study the same and answer the questions which follow :



Mention two structural features of A which help in the function mentioned in (iii) above.

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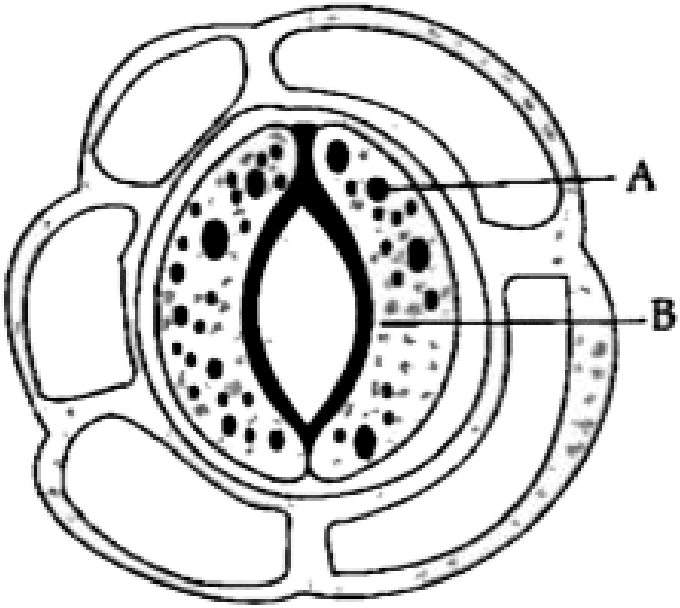
5. The diagram below represents a structure found in a leaf. Study the same and answer the questions which follow:



Where is this structure likely to be found in a leaf?

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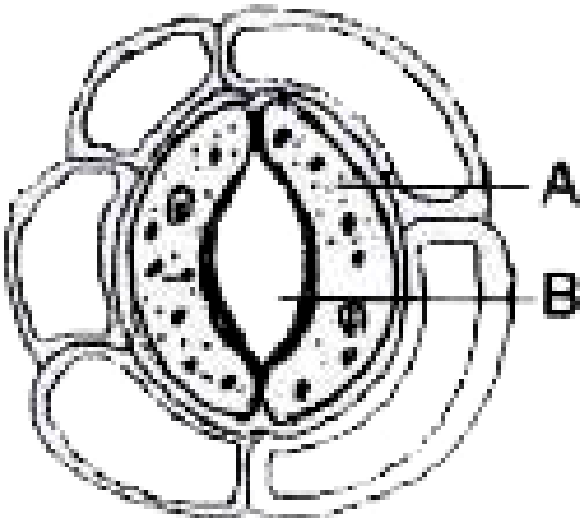
6. The diagram given below represents a structure found In a leaf.



Study the same and answer the questions that follow:

The above structure helps in the process of transpiration. Explain the term transpiration.

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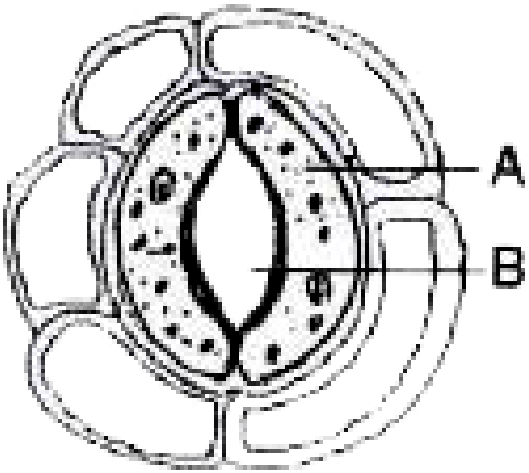
7. The diagram given below represents a structure found In a leaf.



Study the same and answer the questions that follow:

How many other cells are found surrounding this structure as seen In the diagram.

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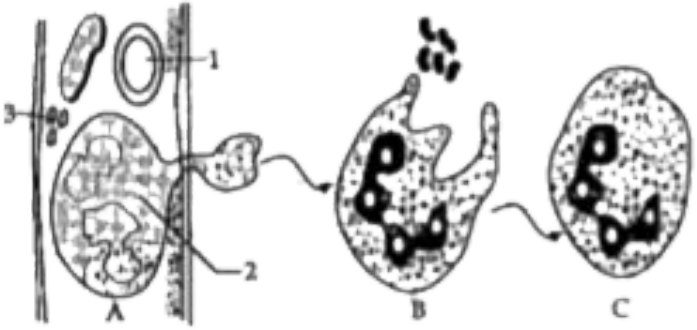
8. Study the diagrams given below and answer the questions tht follow:



Name the cells labelled 1,2 and 3

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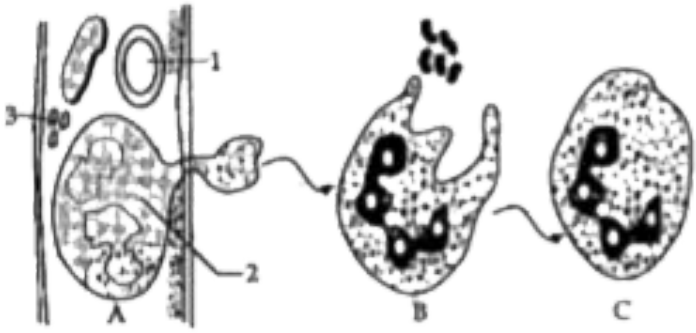
9. Study the diagrams given below and answer the questions tht follow:



Identify the phenomenon occurring in A. Explain the phenomenon.

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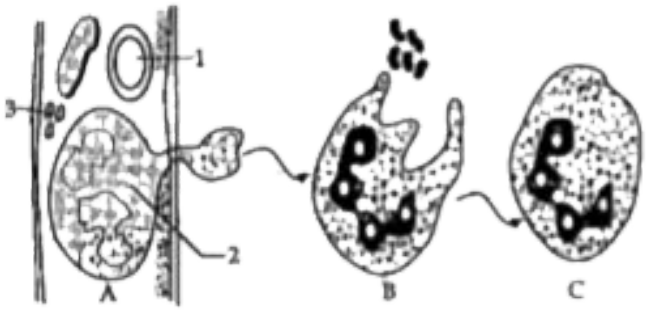
10. Study the diagrams given below and answer the questions tht follow:



Mention two structural differences between 1 and 2

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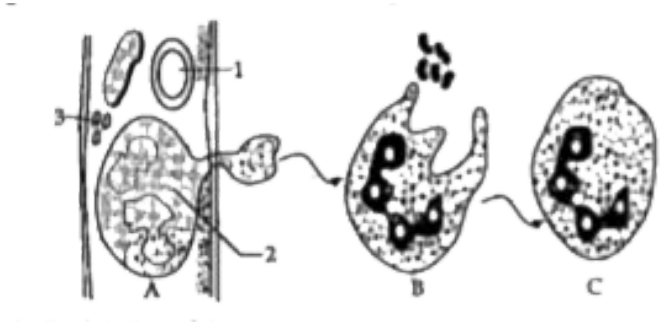
11. Study the diagrams given below and answer the questions that follow:



Name the process occurring in B and C.

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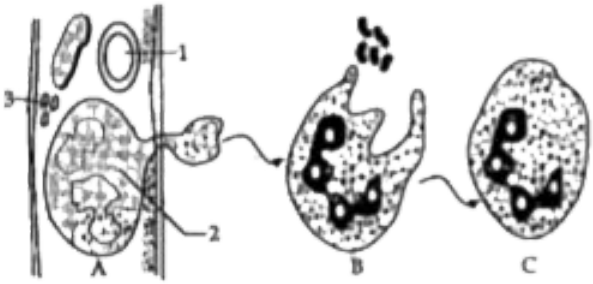
12. Study the diagrams given below and answer the questions that follow:



State the importance of this process in the human body.

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13. Given below is a diagram of a double helical structure of DNA.

Name the four nitrogenous bases that form a DNA molecule.

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14. Given below is a diagram of a double helical structure of DNA.

Give the full form of DNA.

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15. Given below is a diagram of a double helical structure of DNA.

Name the unit of strand of DNA heredity.

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16. Given below is a diagram of a double helical structure of DNA.

Mention two points of difference between Mitosis and Meiosis.

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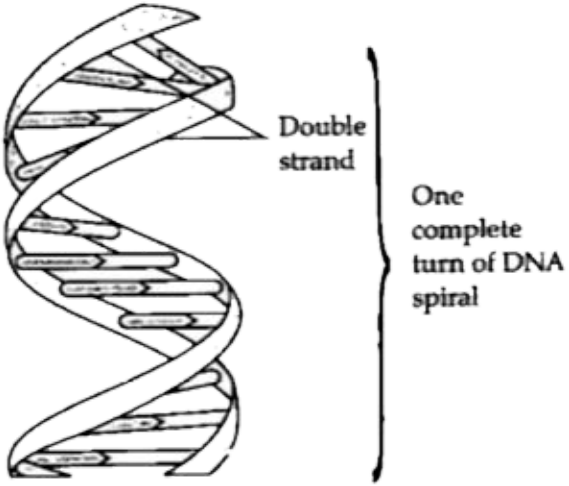
17. Given below is a diagram of the double helical structure of DNA.



Who gave the double helical model to explain the structure of DNA ?

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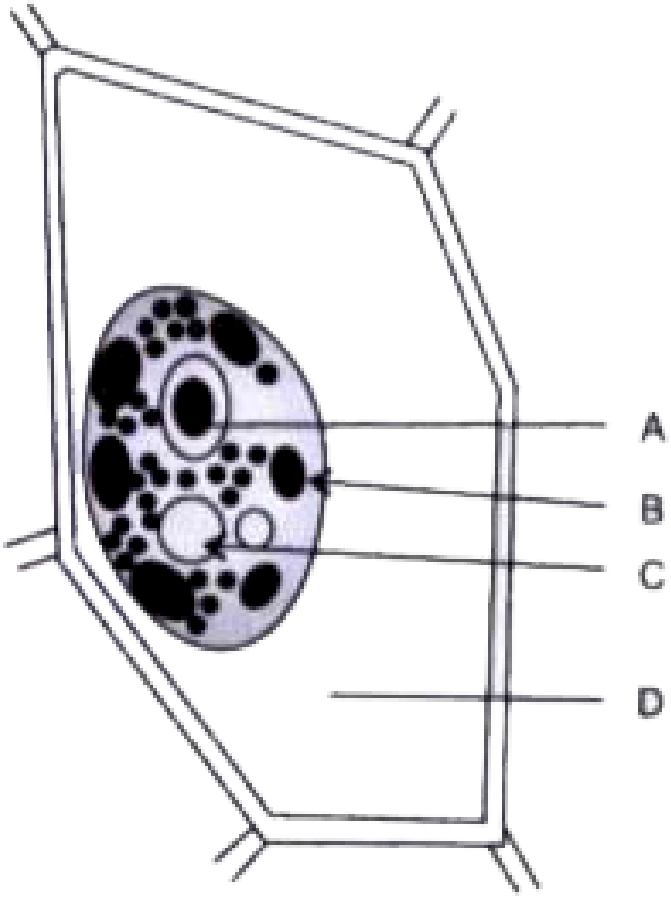
18. Given below is a diagram of the cell as seen under the microscope after having been placed in a solution.



What is the technical term used for the state/condition of the cell shown above?

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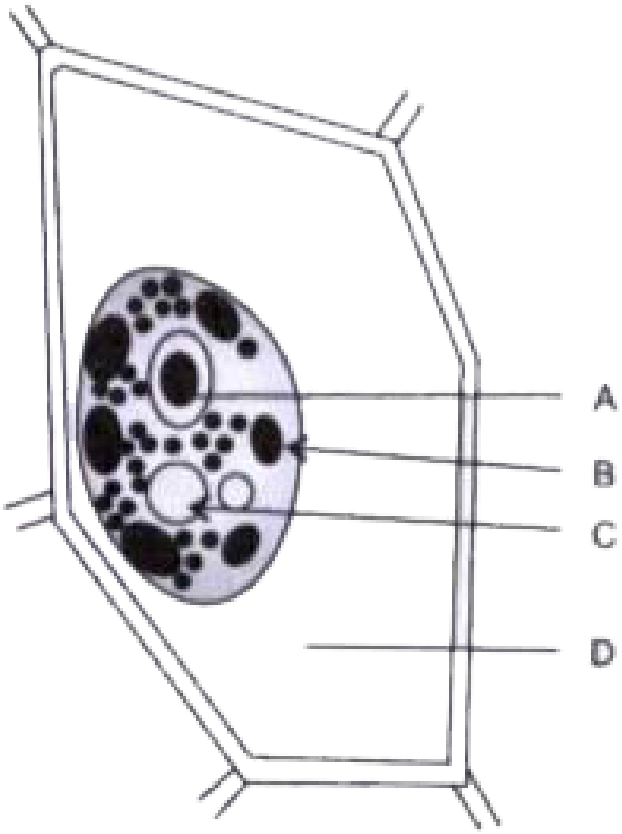
19. Given below is a diagram of the cell as seen number the microscope after having been placed in a solution.



Give the technical term for the solution in which the cell was placed.

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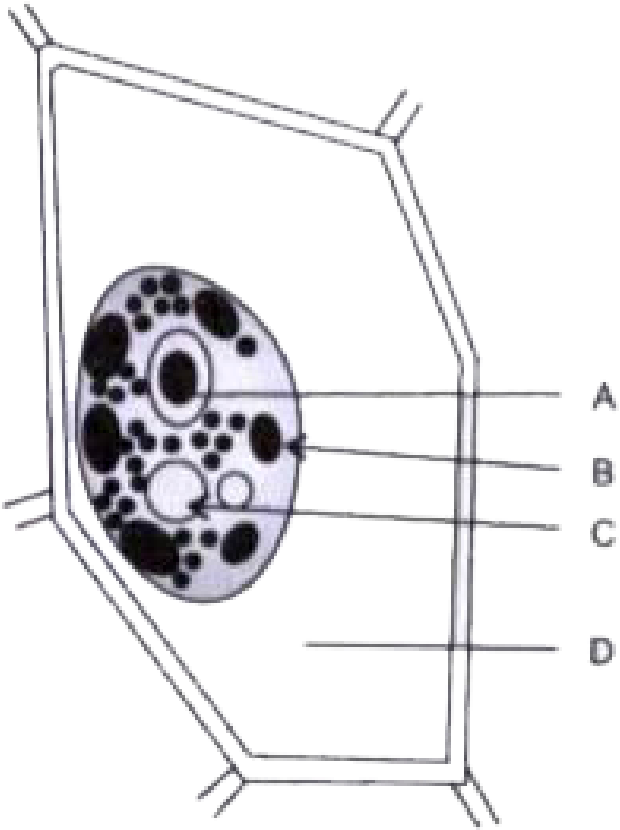
20. Given below is a diagram of the cell as seen number the microscope after having been placed in a solution.



Name the parts numbered A to

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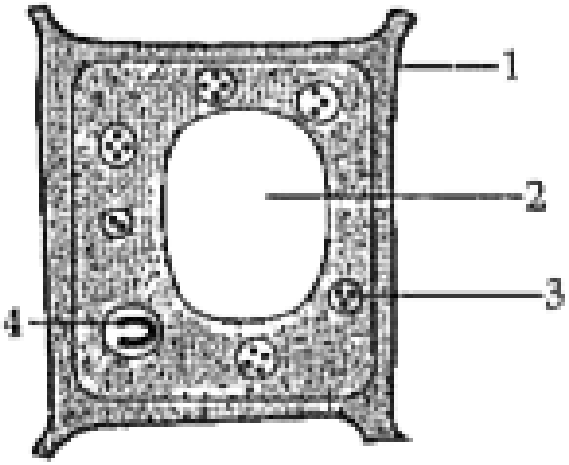
21. Study the diagram given below and answer the questions that follow :



Is the given structure-an animal cell or a plant cell? Give reason in support of your answer.

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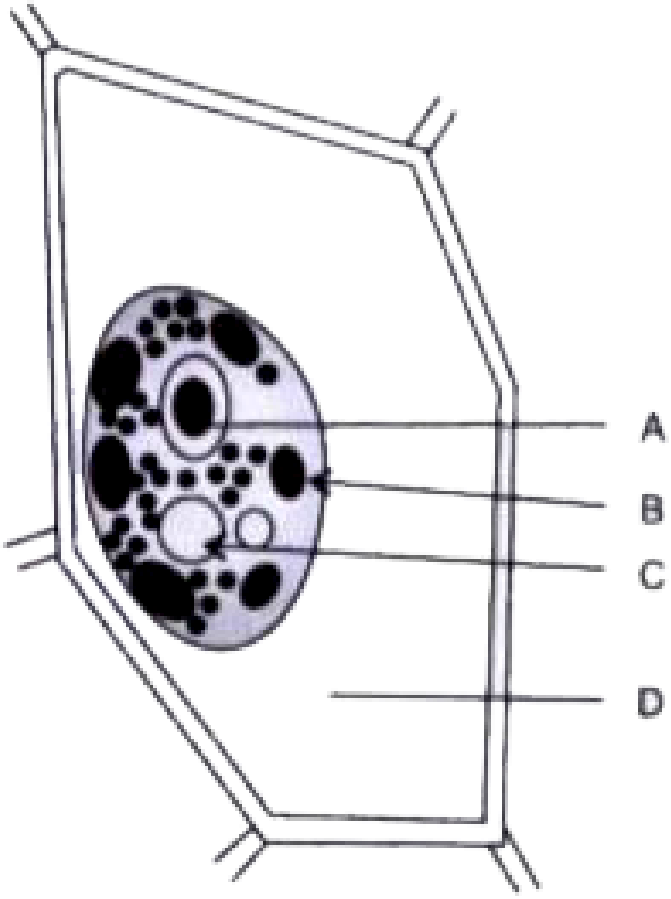
22. Given below is a diagram of the cell as seen under the microscope after having been placed in a solution.



What is the technical term used for the state/condition of the cell shown above?

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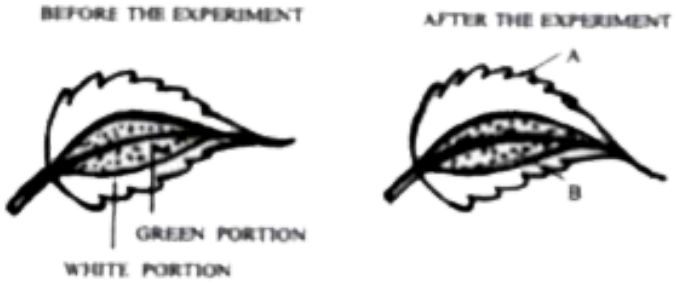
23. The diagram given below is an experiment conducted to study a factor necessary for photosynthesis Observe the diagram and then answer the following questions



What is the aim of the experiment

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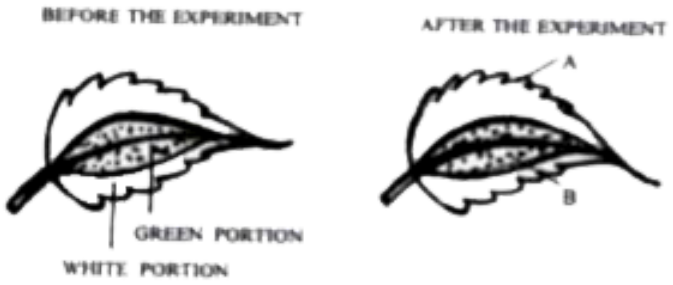
24. The diagram given below is an experiment conducted to study a factor necessary for photosynthesis Observe the diagram and then answer the following questions



Name the test performed on the leaf and the solution used for the test

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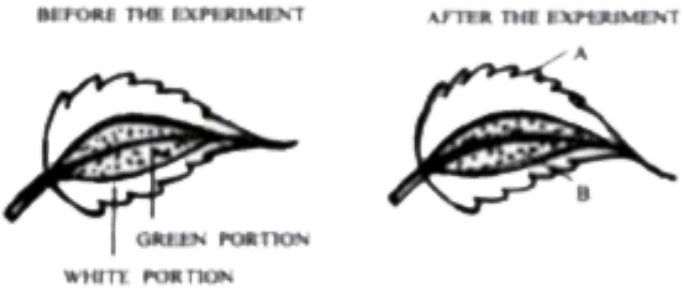
25. The diagram given below is an experiment conducted to study a factor necessary for photosynthesis Observe the diagram and then answer the following questions



What type of leaf was used for the experiment? Give an example

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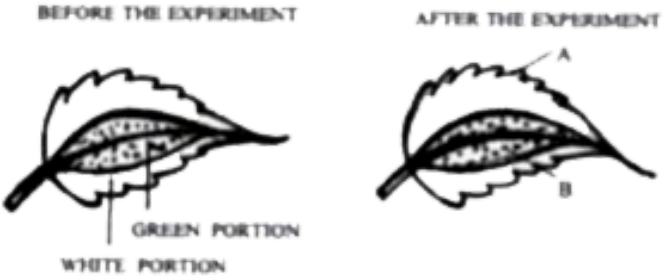
26. The diagram given below is an experiment conducted to study a factor necessary for photosynthesis Observe the diagram and then answer the following questions



What is the expected result of the above test on the parts labelled A and B ?

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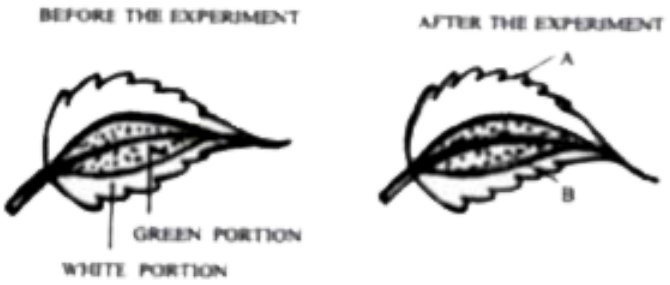
27. The diagram given below is an experiment conducted to study a factor necessary for photosynthesis Observe the diagram and then answer the following questions



Give a balanced chemical equation to represent the process of photosynthesis

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28. Briefly explain the following:

Reflex action

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29. Define the following:

Diapedesis

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30. Explain the following term :

Turgidity

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31. Explain the following term :

Bleeding

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32. Define the following term : Cataract

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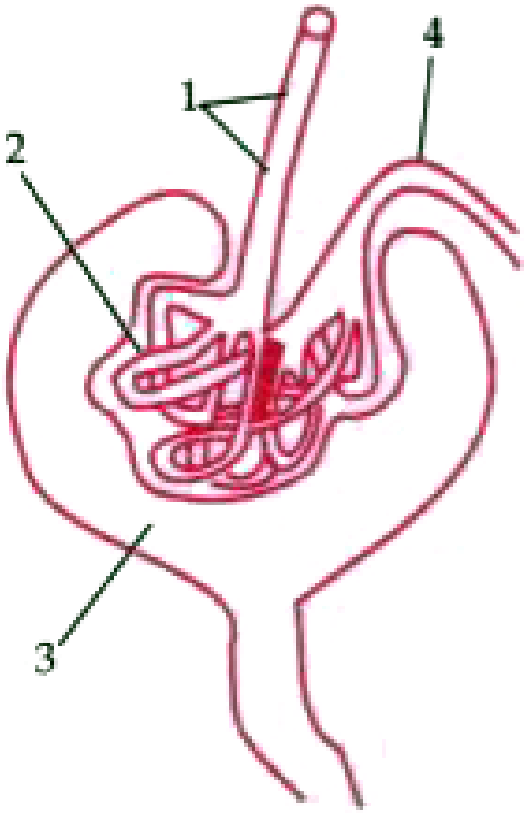
33. Study the diagram given below and then answer the questions that follow :



Name the region in the kidney where the above structure is present.

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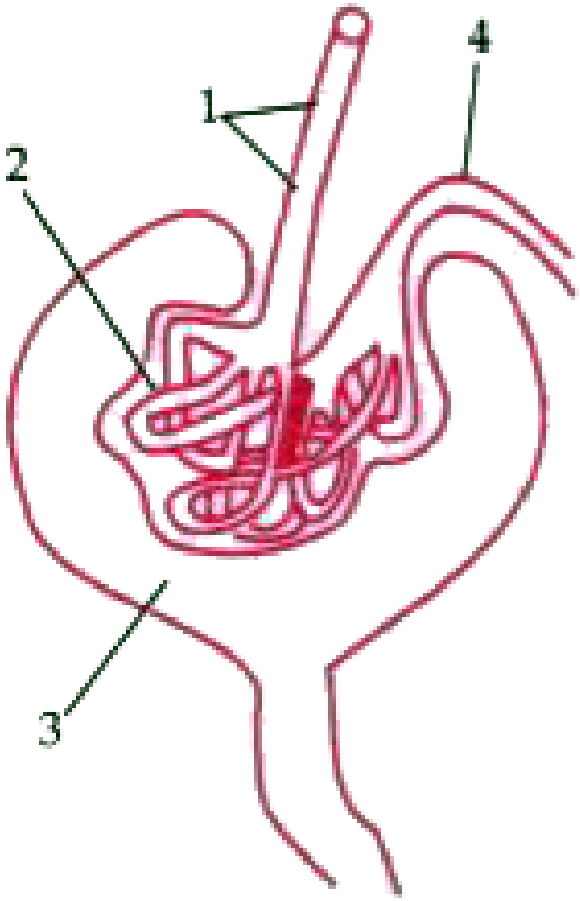
34. Study the diagram given below and then answer the questions that follow :



Name the parts labelled 1, 2, 3 and 4.

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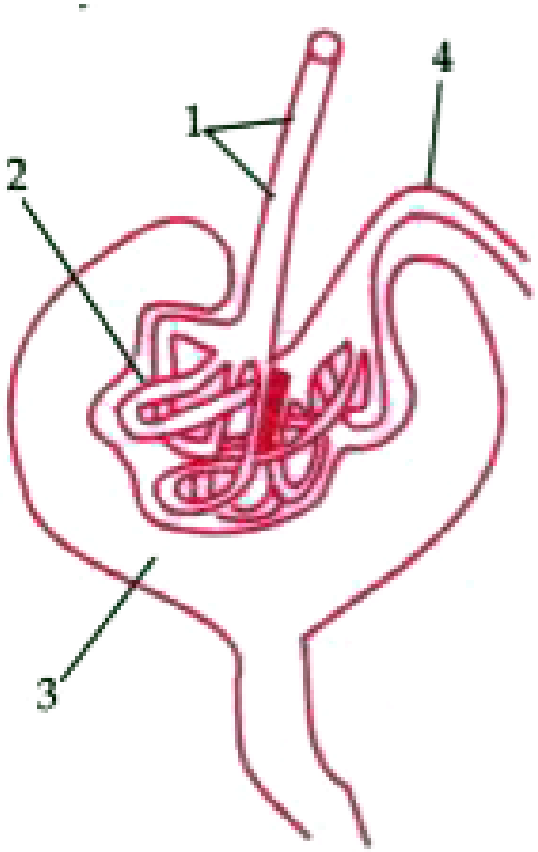
Watch Video Solution

35. Study the diagram given below and then answer the questions that follow :



Name the stages involved in the formation of urine.

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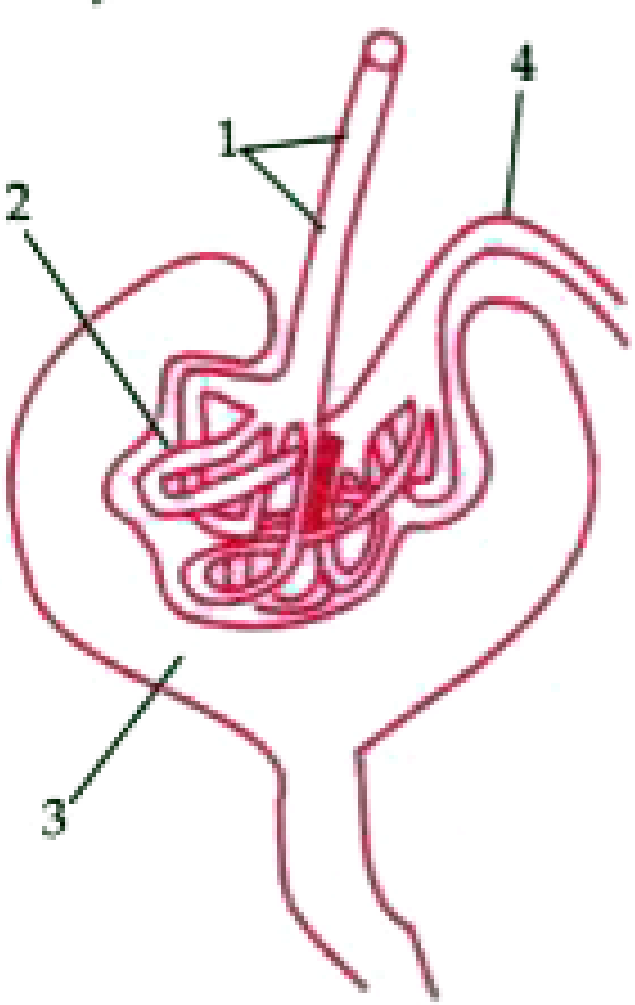
36. Study the diagram given below and then answer the questions that follow :



What is the technical term given to the process occurring in 2 and 3 ? Briefly describe the process.

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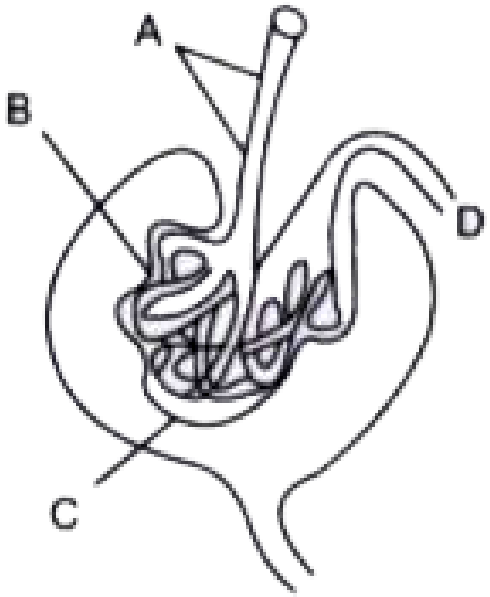
37. Study the diagram given below and answer the following questions:



What is the collective term used for B + C?

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38. Comment upon the following :

Wilted lettuce becomes crisp/firm when placed in cold water for a while .

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39. Account for the following:

One feels blinded for a short time while coming out of a dark room.

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40. Comment upon the following :

The leaves of plants roll up on a bright sunny day.

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41. Give specific/biological reasons for the following statements.

A person after consuming alcohol walks clumsily.

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42. Give reason for the following

Sleeping under a tree at night is not advisable

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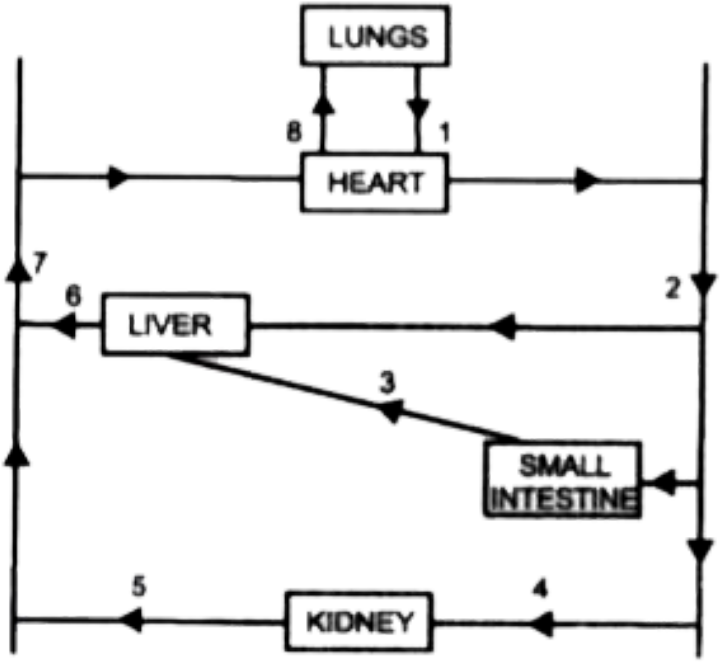
43. Given below the simplified pathway of the circulatory system of man:



Name the blood vessels labelled 1. 3. 6. and 7.

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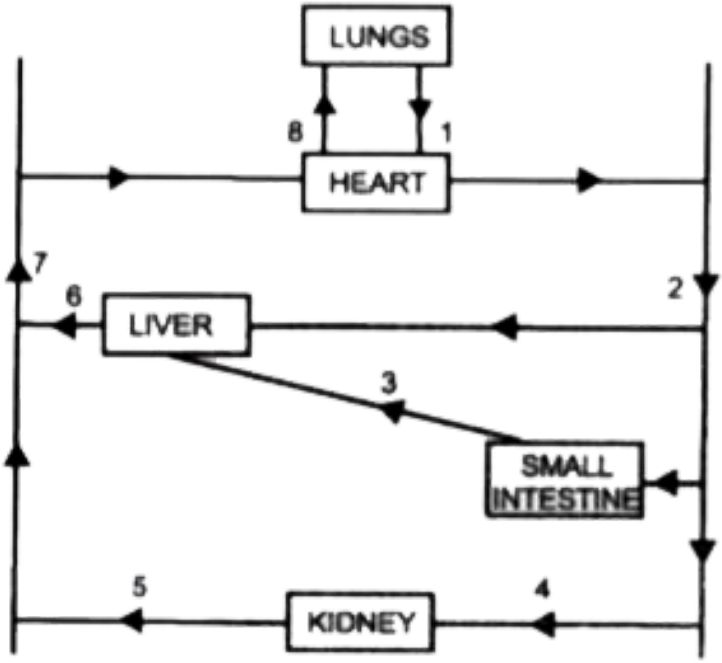
44. Given below the simplified pathway of the circulatory system of man:



Name the blood vessel that supplies the walls of the heart with oxygen.

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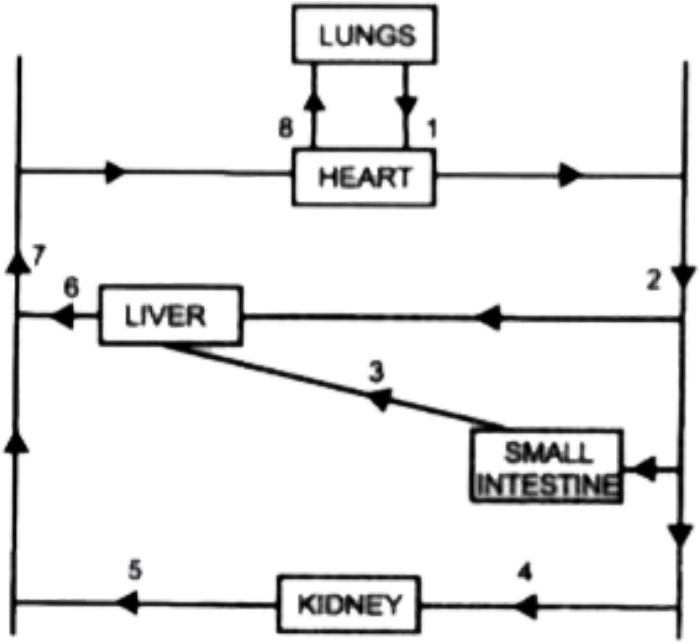
45. Given below the simplified pathway of the circulatory system of man:



Draw a neat labelled diagram of the blood vessel numbered 2' as seen in a cross-section.

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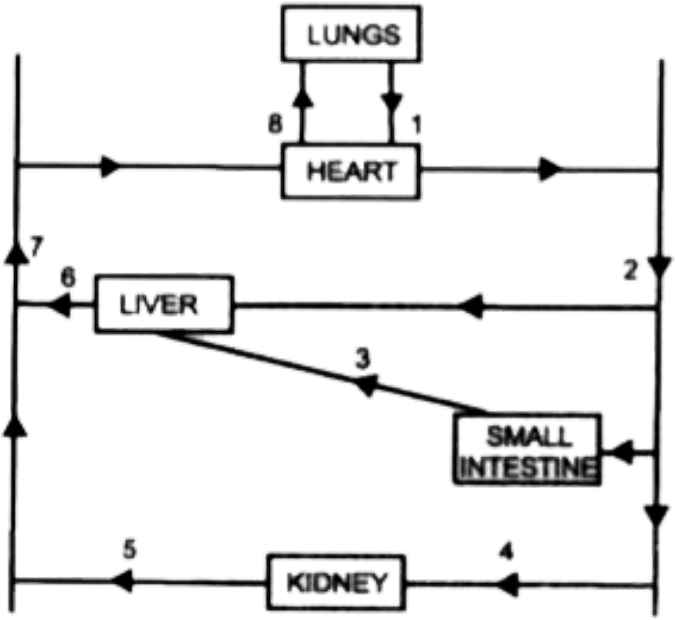
46. Given below the simplified pathway of the circulatory system of man:



Mention one structural difference between blood vessels numbered 4 and 5

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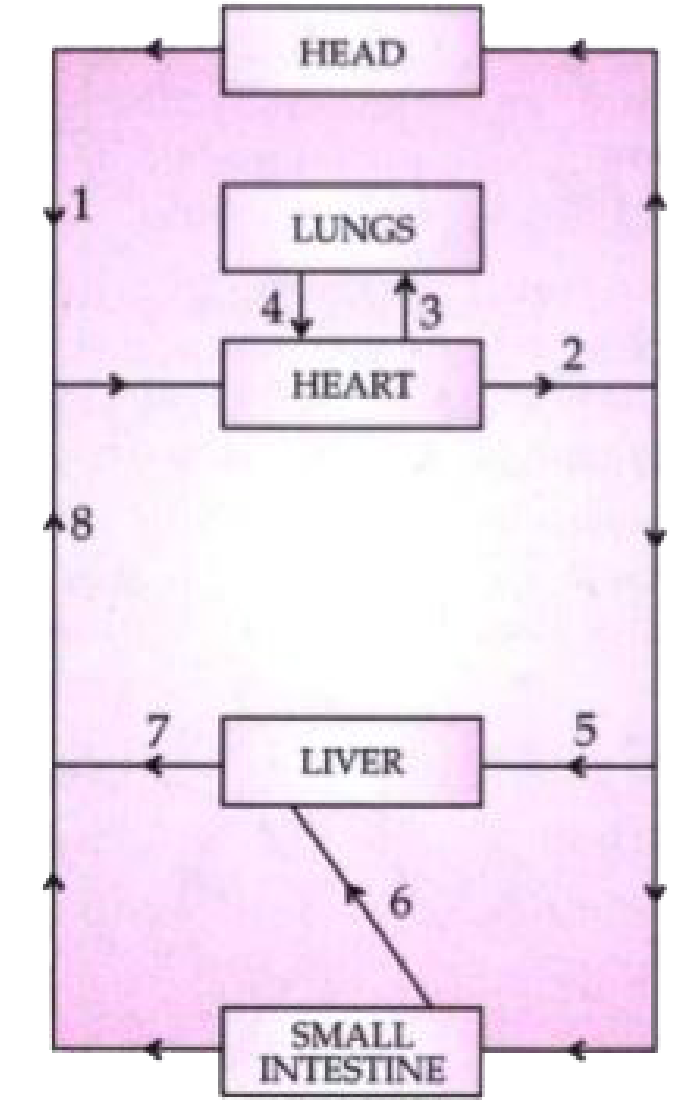
47. The diagram below represents the simplified pathway of the circulation of blood. Study the same and answer the questions that follow :



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

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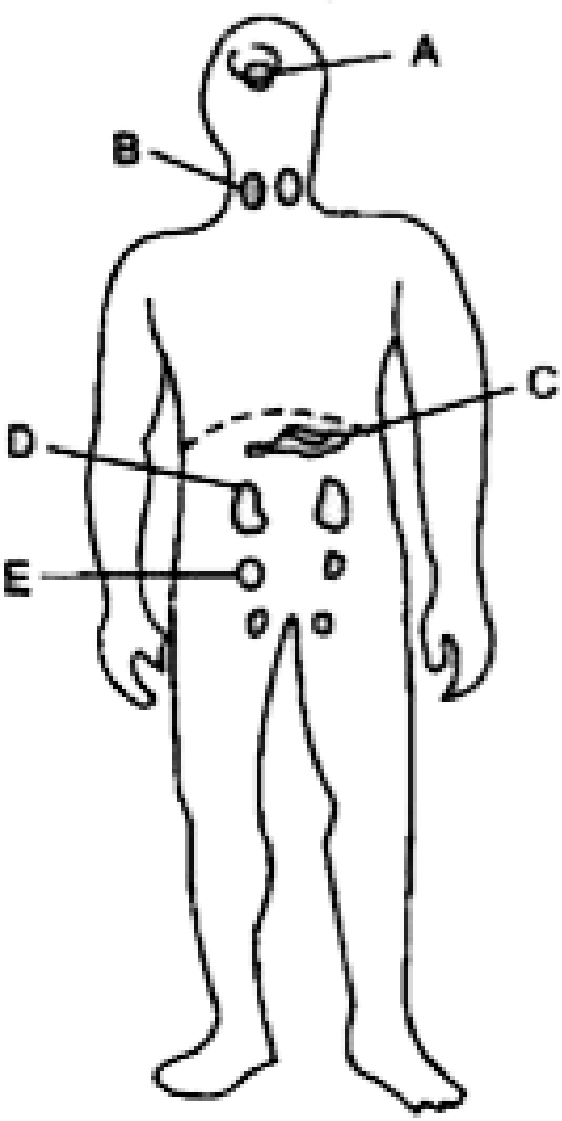
48. Given below is the outline of the human body showing the important glands:



Name the glands marked A to E.

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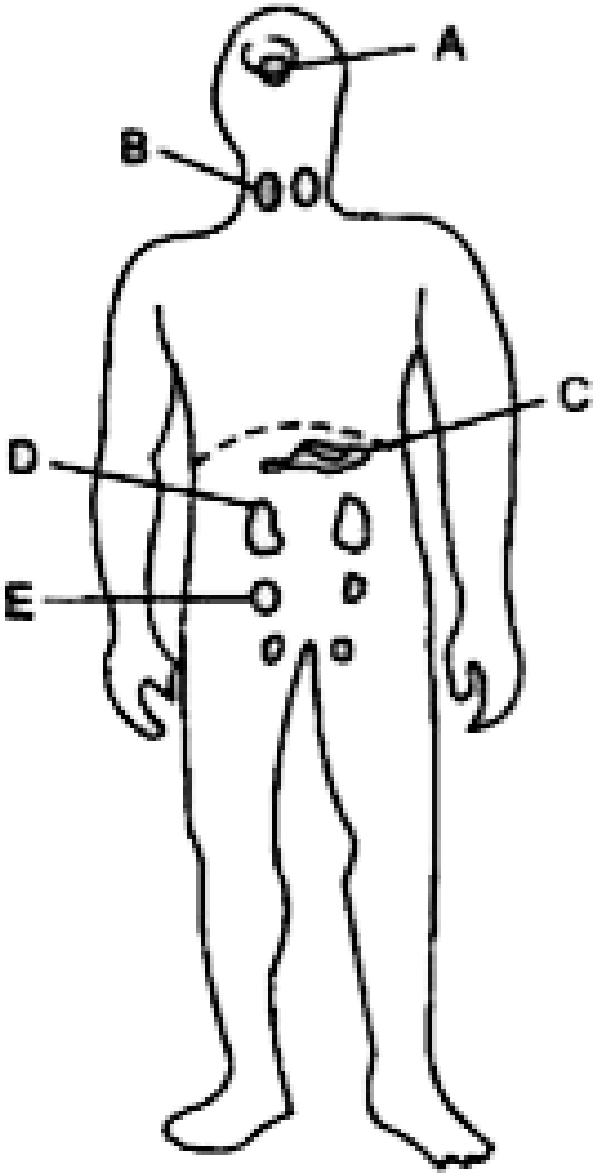
49. Given below is the outline of the human body showing the important glands:



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

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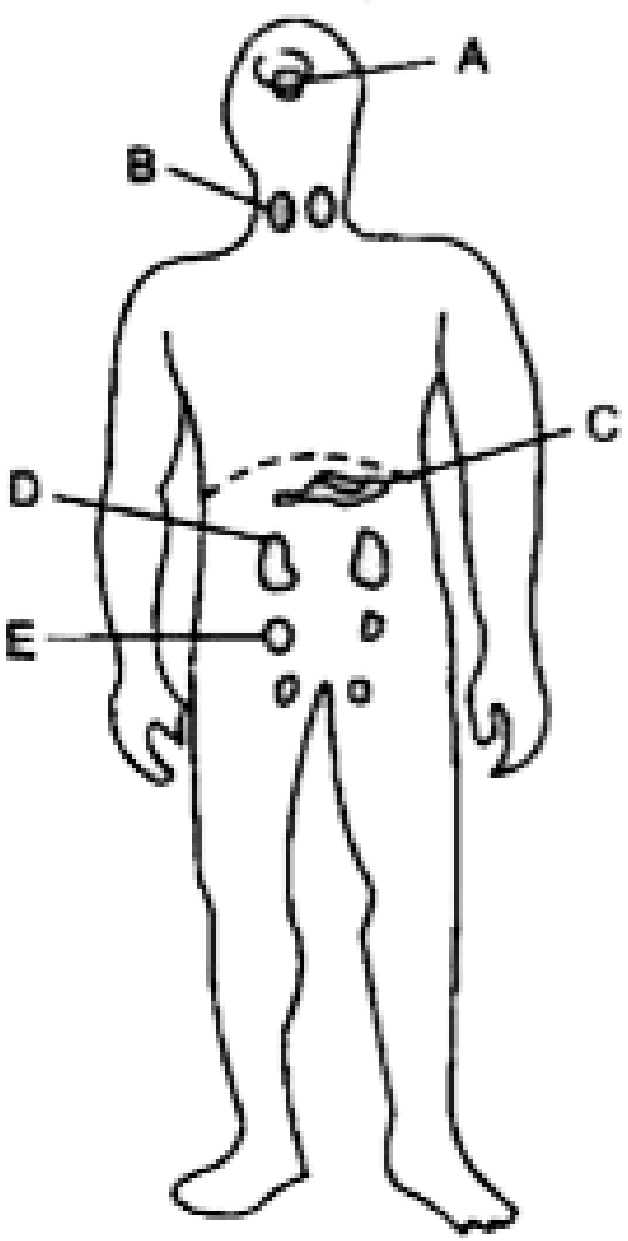
50. Given below is the outline of the human body showing the important glands:



Name the endocrine part of the numbered C.

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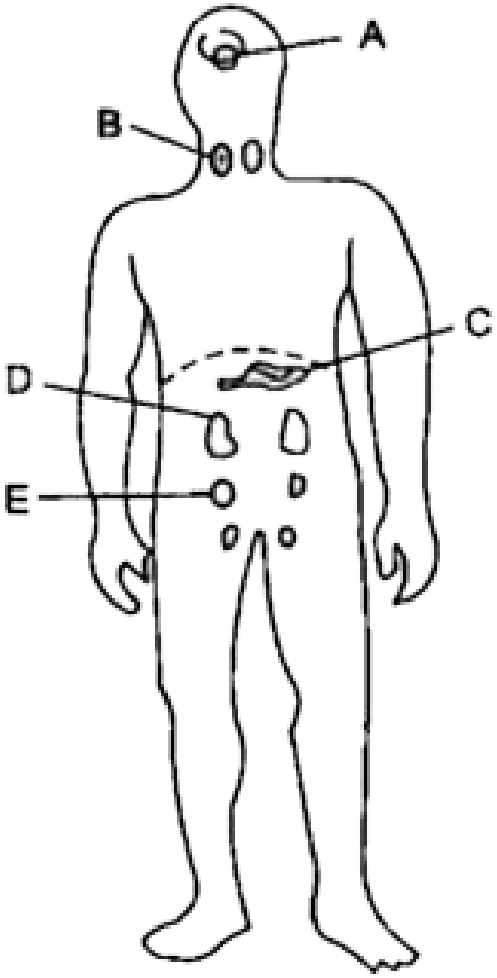
51. Given below is an outline of the human body showing the important glands.



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

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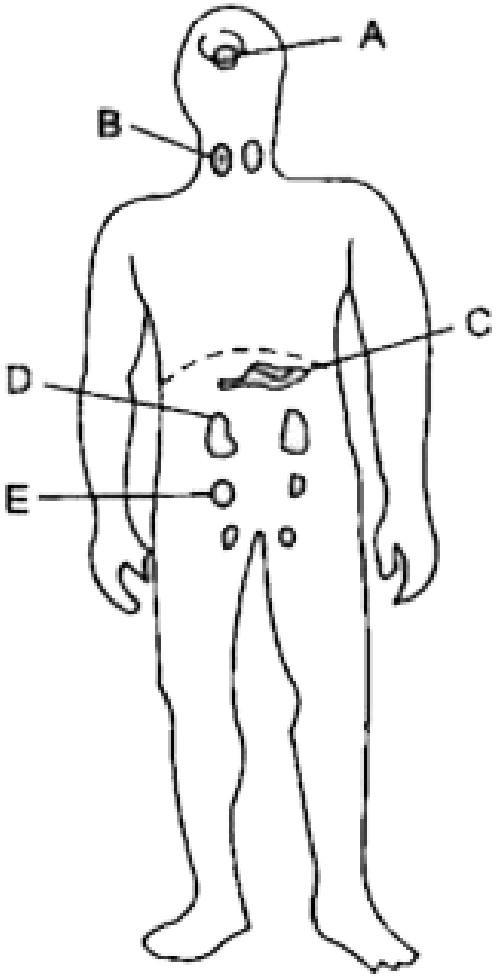
52. Given below is an outline of the human body showing the important glands.



Name the hormone which maintains glucose level in blood.

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53. State Mendel's law of Independent assortment.

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54. A homozygous tall plant (T) bearing red coloured (R) flowers is crossed with a

homozygous dwarf (t) plant bearing white (r) flowers :

Give the genotype and phenotype of the plants of F_1 generation.

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55. A homozygous tall plant (T) bearing red coloured (R) flowers is crossed with a homozygous dwarf (t) plant bearing white (r) flowers :

Mention the possible combinations of the

gametes that can be obtained from the F1 hybrid plant.

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56. A homozygous tall plant (T) bearing red coloured (R) flowers is crossed with a homozygous dwarf (t) plant bearing white (r) flowers :

Give the genotype and phenotype of the plants of F_1 generation.

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57. Complete the following table by filling in the blanks from 1 to 10 with appropriate terms:

S.No.	Gland	Secretion	Function/Effect on body
1.	Thyroid	1	2
2.	3	Vasopressin	4
3.	5	6	Promotes glucose utilisation by the body cells
4.	Lacrimal gland	7	8
5.	Adrenal medulla	9	10

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