



BIOLOGY

BOOKS - EVERGREEN BIOLOGY (ENGLISH)

SAMPLE PAPER 2013

Section I

1. The cell body of a nerve cell



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2. Name the outermost layer of the epidermis.



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3. Name the following:

A non-biodegradable pesticide.



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4. The Physical expression of genes in an individual.



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5. Name the knot like mass of blood capillaries inside the Bowman's capsule.



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6. Give exact location and function of Chloroplast



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**7. Mention the exact location of the following :
Incus**



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8. State the exact location of the following:

Corpus callosum



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9. State the exact location of the Guard cells:



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10. State the exact location of the following

Pulmonary semilunar valve



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11. Given below are six sets with four terms each. In each set a term is an odd one and cannot be grouped in the same category to which the other three belong. Identify the odd one in each set and name the category to which the remaining three belong. The first one has been done as an example:

Example : Fructose, Sucrose, Glucose, Calcium.

Odd term : Calcium

Category : Carbohydrates.

Carbonic acid, acetic acid, benzoic acid, boric acid.



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12. Given below is a set with four terms. In each set a term is an odd one and cannot be grouped in the same category to which the other three belong. Identify the odd one in each set and name the category to which the remaining three belong. The first one has been done as an example:

Example : Fructose, Sucrose, Glucose, Calcium.

Odd term : Calcium

Category : Carbohydrates.

Saliva, bile, sweat, tears.



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13. Given below are six sets with four terms each. In each set a term is an odd one and cannot be grouped in the same category to which the other three belong. Identify the odd one in each set and name the category to

which the remaining three belong. The first one has been done as an example:

Example : Fructose, Sucrose, Glucose, Calcium.

Odd term : Calcium

Category : Carbohydrates.

Cretinism, myxedema, simple goitre, acromegaly.



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14. Given below are six sets with four terms each. In each set a term is an odd one and

cannot be grouped in the same category to which the other three belong. Identify the odd one in each set and name the category to which the remaining three belong. The first one has been done as an example:

Example : Fructose, Sucrose, Glucose, Calcium.

Odd term : Calcium

Category : Carbohydrates.

Sneezing, coughing, blinking, typing.



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15. Identify the odd one in each set and name the category to which the remaining three belong :

Semicircular canals, Cochlea, Tympanum, Utriculus.



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

Rewrite the matching pair.

<i>Column A</i>	<i>Column B</i>
(1) <i>Testis</i>	(a) <i>Kidney</i>
(2) <i>Poliomyelitis**</i>	(b) <i>Water vapour</i>
(3) <i>Transpiration</i>	(c) <i>Prostate gland</i>
(4) <i>Clotting of blood</i>	(d) <i>Iron</i>
(5) <i>Uriniferous tubule</i>	(e) <i>Uterus</i>
	(f) <i>Gonad</i>
	(g) <i>Salk's vaccine</i>
	(h) <i>Water droplet</i>
	(i) <i>Calcium</i>
	(j) <i>TAB vaccine</i>



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17. 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:

Neutrophils :.....



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18. 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:

Ureter:



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19. 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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20. 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:

Iris of the eye :



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21. 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:

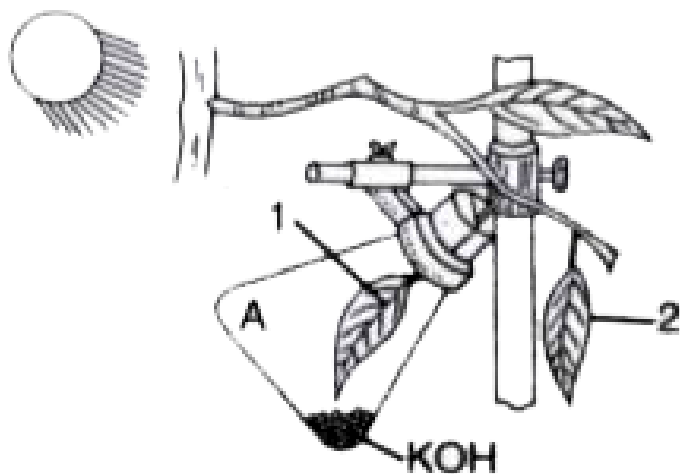
Placenta :.....



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22. The figure given below represents an experiment to demonstrate a particular aspect

of photosynthesis. The alphabet "A" represents a certain condition inside the flask

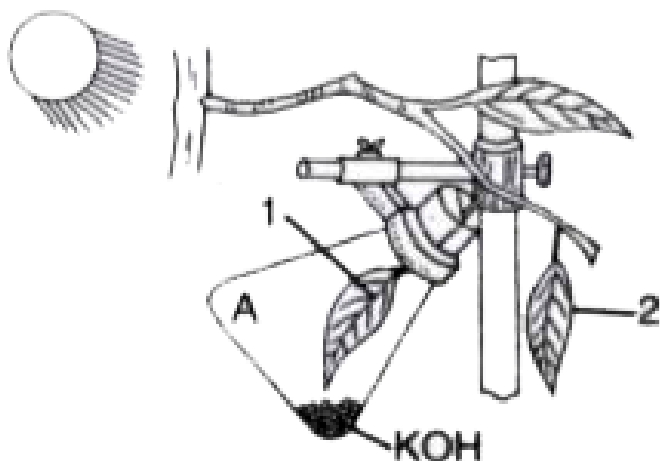


What is the aim of the experiment

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23. The figure given below represents an experiment to demonstrate a particular aspect

of photosynthesis. The alphabet "A" represents a certain condition inside the flask

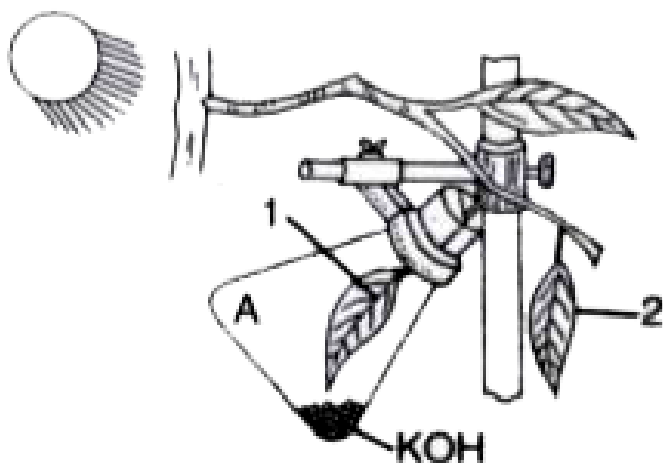


Identify the special condition inside the flask

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24. The figure given below represents an experiment to demonstrate a particular aspect

of photosynthesis. The alphabet "A" represents a certain condition inside the flask

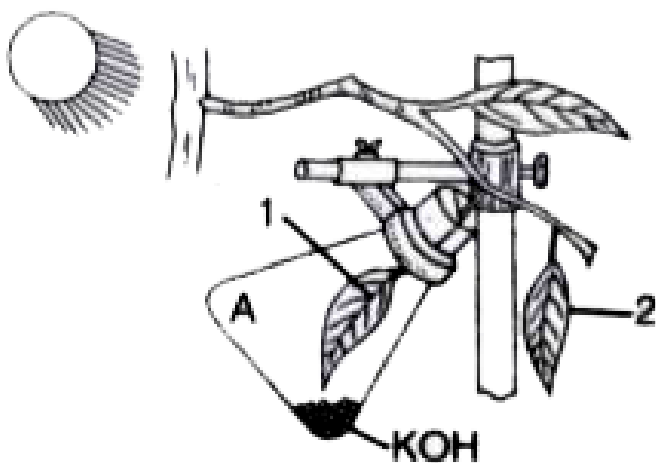


Name an alternative chemical which can be used instead of KOH



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25. The figure given below represents an experiment to demonstrate a particular aspect of photosynthesis. The alphabet "A" represents a certain condition inside the flask



In what manner do the leaves 1 and 2 differ at the end of the starch test

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26. 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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27. 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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28. Write in a logical sequence

Endodermis, Cortex, Soil water, Xylem, Root
hair



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



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30. 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 Choose The Correct Answer

1. The cell component visible only during cell division :

A. Mitochondria

B. Chloroplast

C. Chromosome

D. Chromatin

Answer: C



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2. Pulse wave is mainly caused by the :

A. Systole of atria

B. Diastole of atria

C. Systole of the left ventricle

D. Systole of the right ventricle

Answer: C



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3. Choose the correct answer from the four options :

The recessive gene is one that expresses itself in :

A. Heterozygous condition

B. Homozygous condition

C. F_2 generation

D. Y-linked inheritance.

Answer: B



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4. The gland which secretes both hormone and enzyme is the:

A. Pituitary

B. Pancreas

C. Thyroid

D. Adrenal

Answer: B



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5. The ventral root of spinal cord carries the

- A. Motor neuron
- B. Sensory neuron
- C. Intermediate neuron
- D. Association neuron.

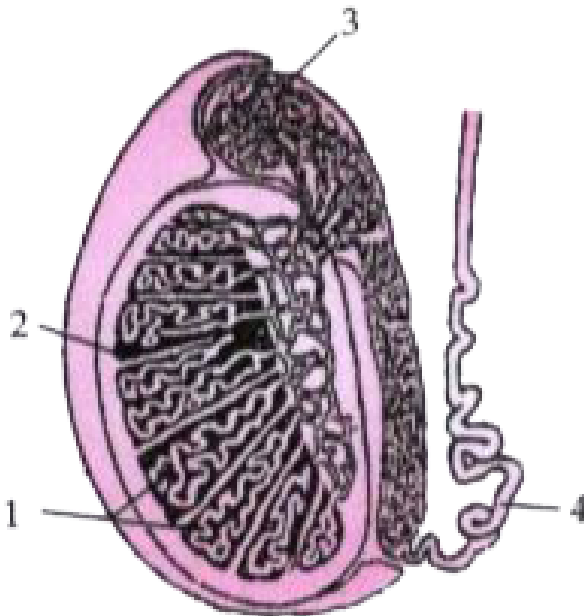
Answer: A



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Section II

1. Given below is a diagram of the lateral section of a testis of a man. Study the same and answer the questions that follow :

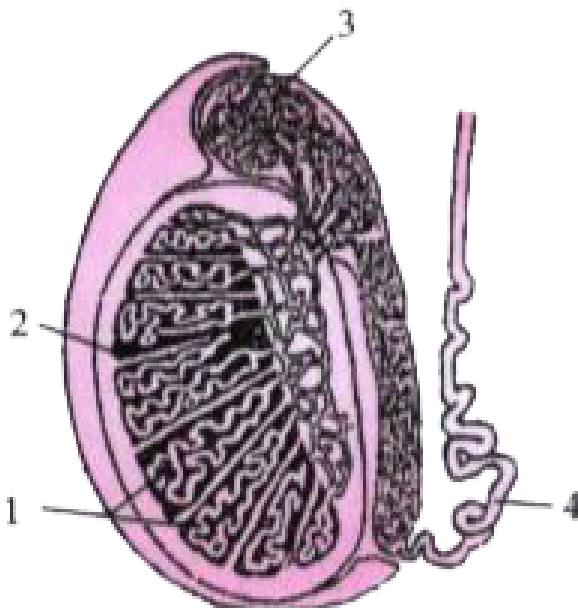


Label the parts numbered 1 to 4 of the diagram.



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2. Given below is a diagram of the lateral section of a testis of a man. Study the same and answer the questions that follow :

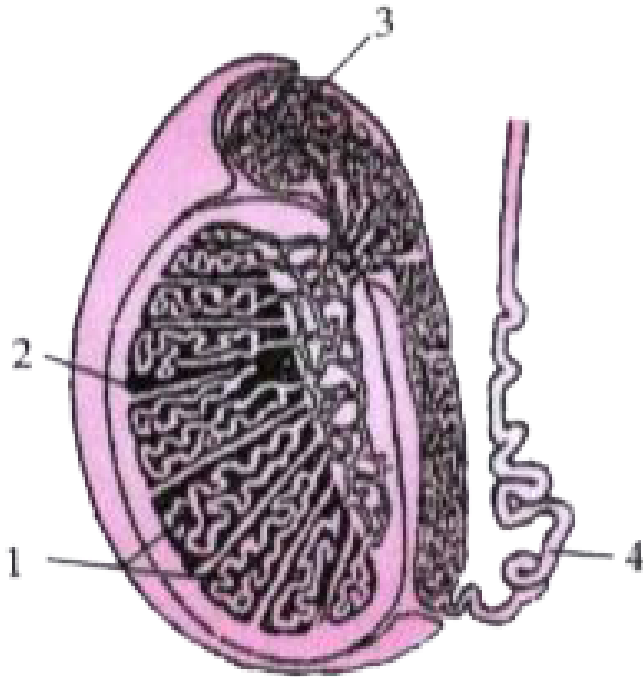


State the functions of the parts labelled 1 and 3.

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3. Given below is a diagram of the lateral section of a testis of a man. Study the same

and answer the questions that follow :

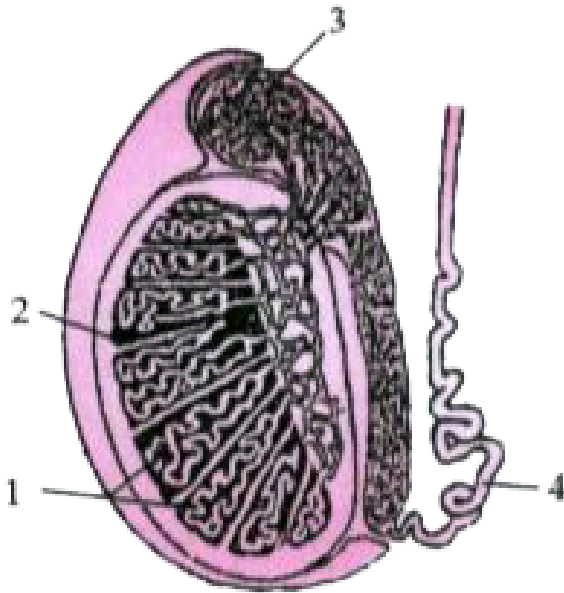


What is the significance of the testes being located in the scrotal sac outside the abdomen ?



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4. Given below is a diagram of the lateral section of a testis of a man. Study the same and answer the questions that follow :

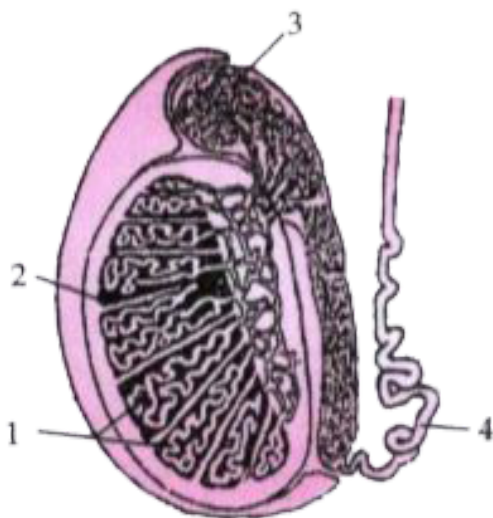


What is the role played by the inguinal canal ?



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5. Given below is a diagram of the lateral section of a testis of a man. Study the same and answer the questions that follow :



What is semen?



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

Chemicals found in the blood which act against antigens.



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

A constituent that causes pollution.



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

The onset of menstruation in a young girl.



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

Structure which connects the placenta with the foetus.



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

The fluid present between the layers of meninges.



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



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12. Give the biological / technical term for the following The biological process which is the starting point of the food chain



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13. Give biological reasons for the following :

The change in an organism resulting due to stimulus.



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

An Antiseptic substance present in tears.



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15. 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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16. 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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17. 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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18. 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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19. 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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20. Draw a diagram of the human eye as seen in a vertical section and label the parts which suits the following functions/descriptions :

The outermost transparent layer in front of the eye lens.



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21. Differentiate between the following pair on the basis of what is mentioned within bracket
photolysis and photophosphorylation (definition)



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22. Differentiate between the following pairs on the basis of what is indicated within the brackets: Bicuspid valve and tricuspid valve.

(Function)



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23. Differentiate between the following pair on the basis of what is mentioned within bracket.

vasectomy and Tubectomy (Explain)



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24. Differentiate between the following pairs of terms on the basis of what is indicated with in the brackets:

Cerebrum and spinal cord (arrangement of white and grey matter)



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25. Differentiate between the following pair on the basis of what is mentioned within brackets:

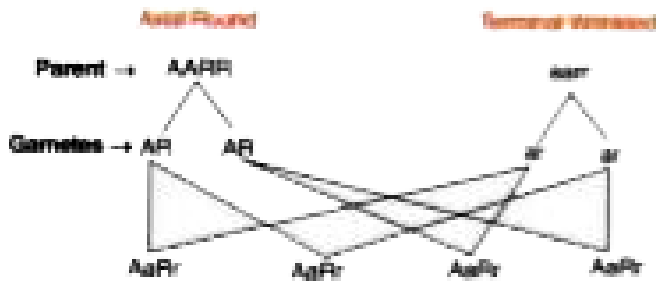
Bowman's capsule and Malpighian capsule
(Parts included)



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26. Given below is a schematic diagram showing Mendel's Experiment on sweet pea plants having axial flowers with round seeds

(AARR) and Terminal flowers with wrinkled seeds (aarr). Study the same and answer the questions that follow :

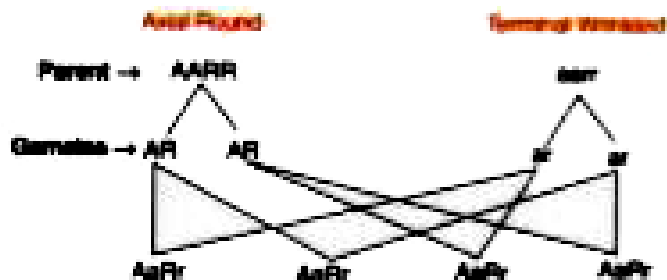


Give the phenotype of F_1 progeny.

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27. Given below is a schematic diagram showing Mendel's Experiment on sweet pea

plants having axial flowers with round seeds (AARR) and Terminal flowers with wrinkled seeds (aarr). Study the same and answer the questions that follow :

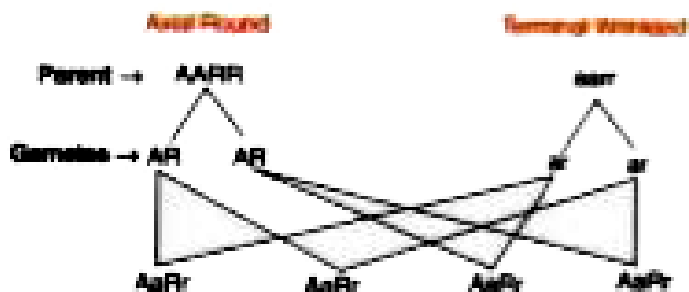


Give the phenotypes of F_2 progeny produced upon by the self pollination of F_1 progeny.



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28. Given below is a schematic diagram showing Mendel's Experiment on sweet pea plants having axial flowers with round seeds (AARR) and Terminal flowers with wrinkled seeds (aarr). Study the same and answer the questions that follow :

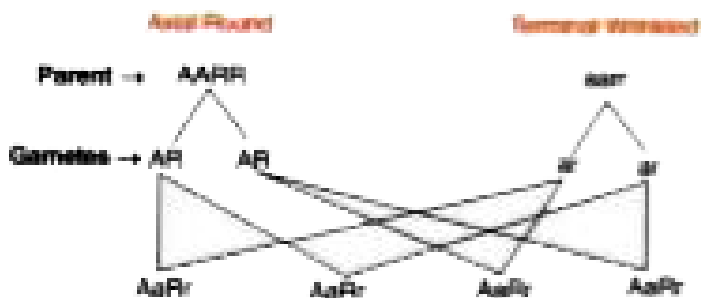


Give the phenotypic ratio of F_2 progeny.



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29. Given below is a schematic diagram showing Mendel's Experiment on sweet pea plants having axial flowers with round seeds (AARR) and Terminal flowers with wrinkled seeds (aarr). Study the same and answer the questions that follow :



Name and explain the law induced by Mendel on the basis of the above observation.



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

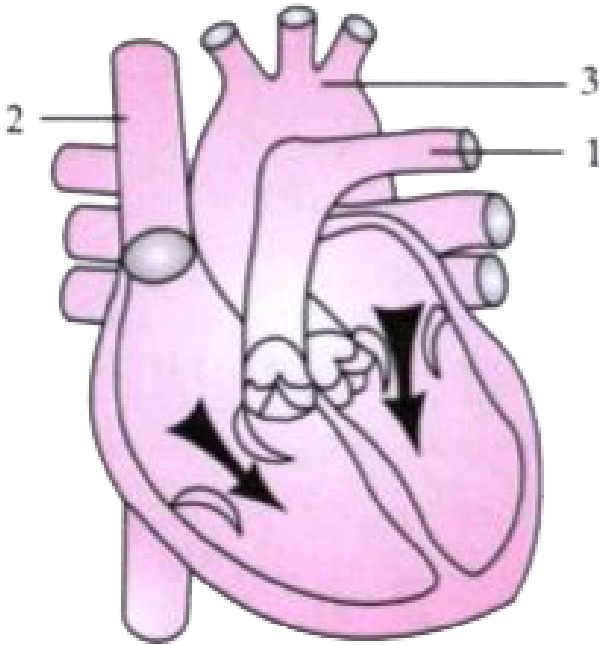
GLAND	SECRETION	FUNCTION/EFFECT ON BODY
1	Testosterone	2
Adrenal	3	4
5	6	Influences metabolism of cells
Lacrimal	7	8
9	Growth hormone	10



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31. The diagram given below represents the human heart in one phase of its functional

activities. Study the same and answer the questions that follow :

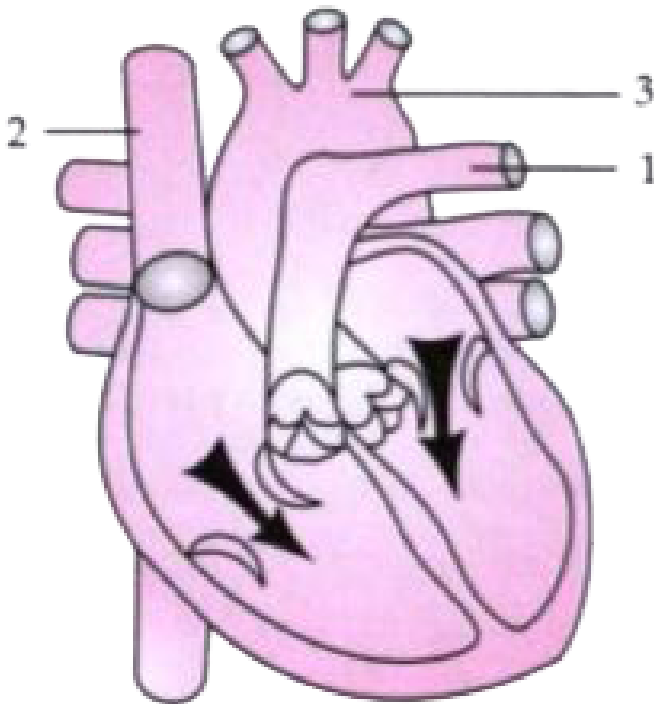


Name the phase.



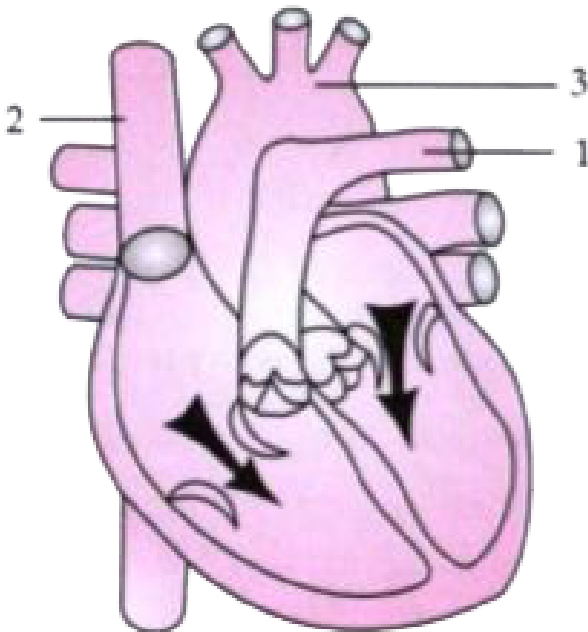
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32. The diagram given below represents the human heart in one phase of its functional activities. Study the same and answer the questions that follow :



Label the parts 1, 2 and 3.

33. The diagram given below represents the human heart in one phase of its functional activities. Study the same and answer the questions that follow :

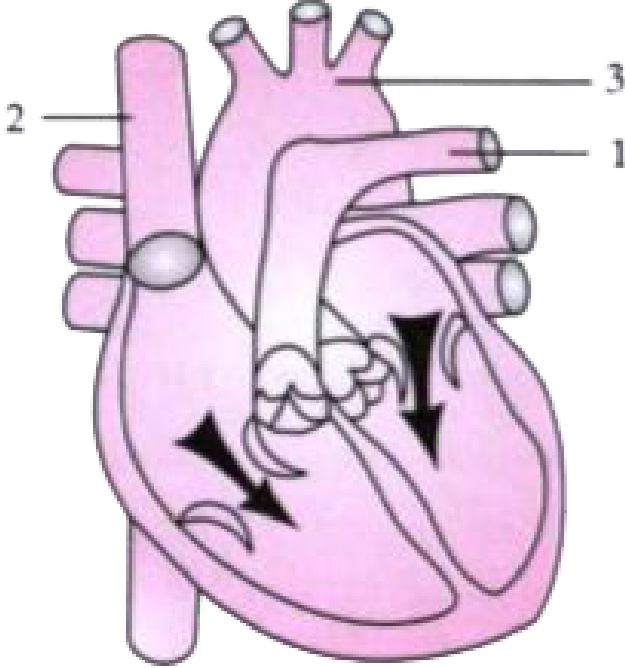


Which part of the heart is contracting in this phase ? Give a reason to support your answer



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34. The diagram given below represents the human heart in one phase of its functional activities. Study the same and answer the questions that follow :



Draw well labelled diagrams of part 1 and 2 to show the structural differences between them.



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35. Give biological reason for the following:

The wall of the ventricle is thicker than the auricles,



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36. Give biological reason for the following:

The renal cortex has a dotted appearance.



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37. Comment upon the following :

Wooden doors and windows swell up during the rainy season .



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38. Give biological reason for the following:

Throat infections could lead to ear infections.



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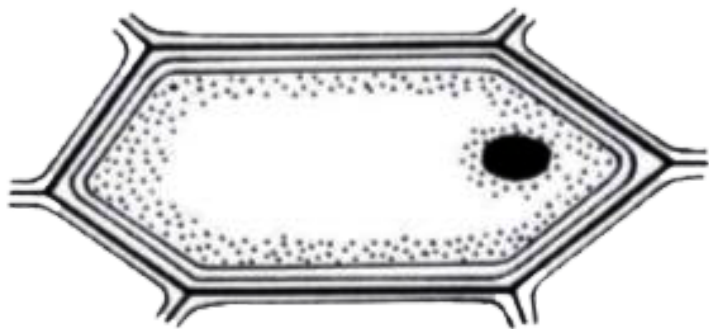
39. Give biological reasons for the following :

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



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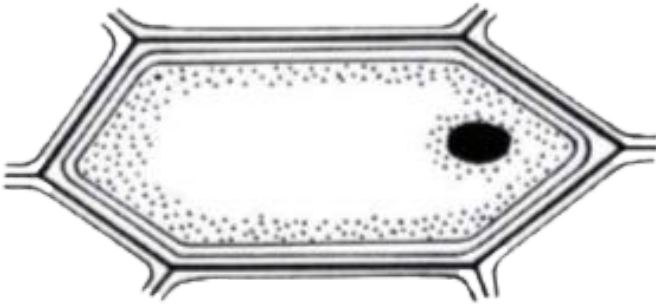
40. The figure given below shows the epidermal cells of an onion bulb. This cell was then transferred to a drop of sugar solution.



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

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

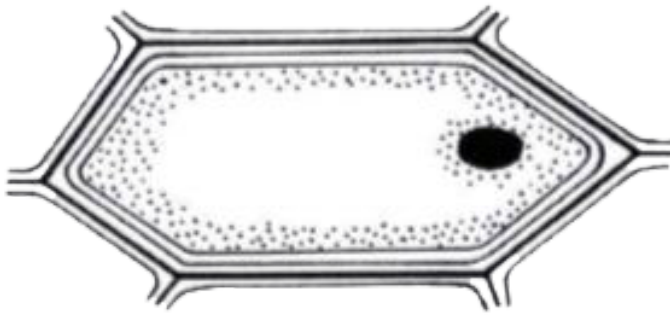


What scientific term is used for the changes as shown in epidermal cell as it would appear after immersion in a strong sugar solution.



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

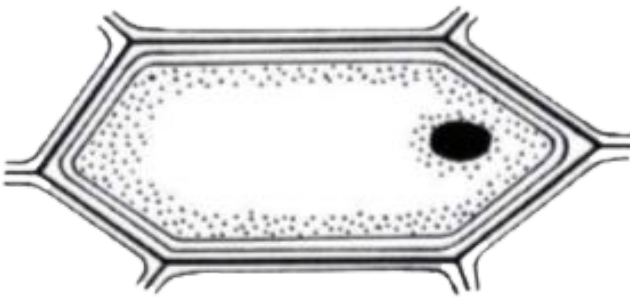


What should be done to restore the cell back to its original condition ?



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

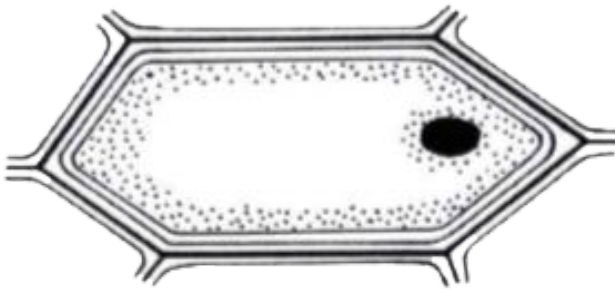


Give the scientific term for the recovery of the cell as a result of the restore the cell back to its original condition ?



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44. 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.



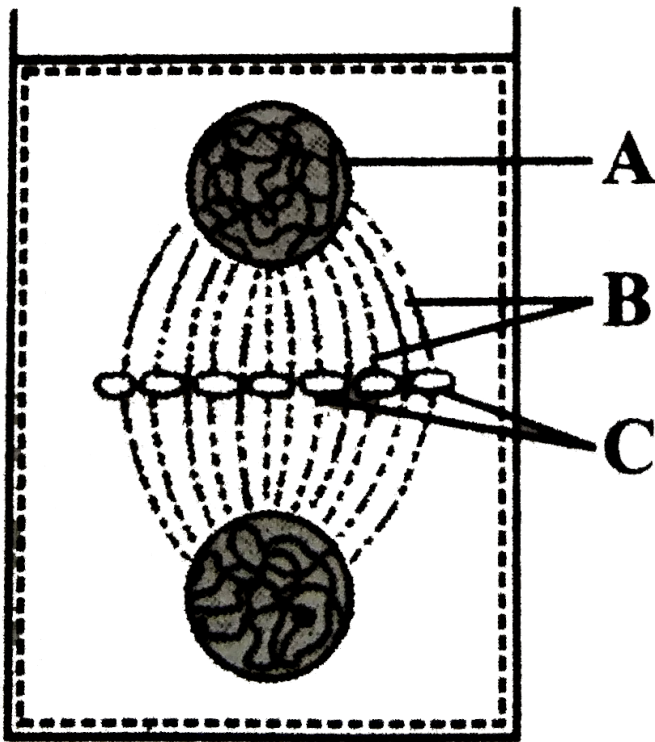
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45. Briefly explain the Genes



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46. The given diagram depicts cell plate method of cytokinesis in plant cells. Identify A,B and C



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47. Guttation is the result of



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48. Differentiate between the following pairs on the basis of what is mentioned in brackets :

Diabetes mellitus and Diabetes insipidus
(reason/cause)



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49. Explain the following with at least one example in each case: disinfectants.



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50. Draw a well labelled diagram to show the anaphase stage of mitosis in a plant cell having four chromosomes.



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51. State any two harmful effects of acid rain.



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52. Expand the following biological abbreviations:

(i) NADP

(ii) ADH

(iii) ATP

(iv) DNA

(v) TSH





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53. Expand the following biological abbreviation :

(I) ACTH and TSH

(ii) TSH



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54. List four major activities of the Red Cross.



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55. Answer the following questions briefly.

List two reasons for the population explosion in India.



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56. Write the names of four nitrogenous bases in a DNA molecule.



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