



# **BIOLOGY**

## **BOOKS - EVERGREEN BIOLOGY (ENGLISH)**

### **SAMPLE QUESTION PAPER 4**

#### **Section I**

**1. Give the specific function of:**

**(i) Centrosome**

(ii) Stoma

(iii) Transpiration

(iv) Ureter

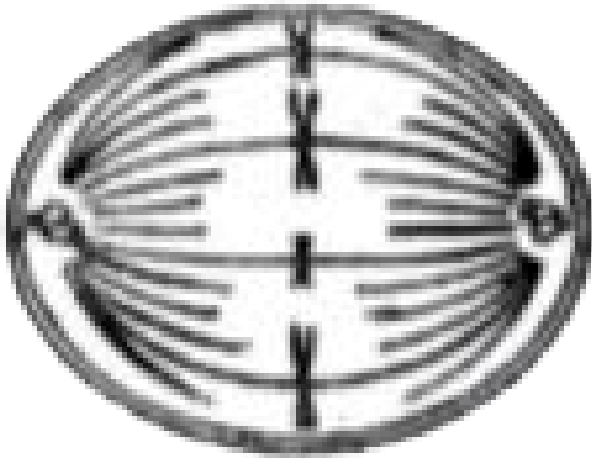
(v) Vitreous humour



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2. The diagram given below represents a stage during cell division

Study the same and answer the questions that follow :



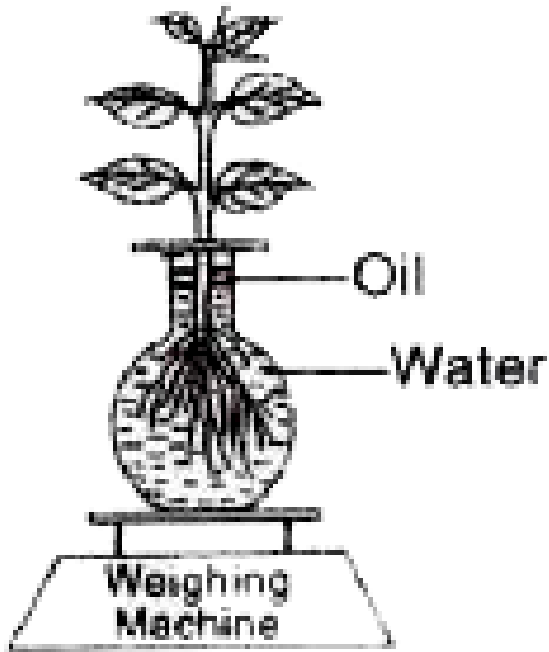
Identify whether it is a plant cell or an animal cell! Give a reason in support of your answer.



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3. The diagram below represents a process in plants. The setup was placed in bright

sunlight. Answer the following questions :



Explain the term 'Guttation'



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4. Write in correct logical sequence without changing the first term

Destarched plant, iodine added, washed in water, a leaf boiled in alcohol, placed in sunlight. (Testing for presence of starch).



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5. Explain the term : Photolysis



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**6. Define the following:**

Diapedesis



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**7. Explain briefly :**

Pulse.



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**8.** 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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**9.** Give one point of difference between the following pair on the basis of what is indicated in bracket.

Medulla oblongata and cerebellum (function).



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**10.** Differentiate between the following pairs on the basis of what is indicated within the brackets:

Artery and vein (direction of blood flow)







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**11.** Bicuspid and tricuspid valves are closed during



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**12.** Which one of the following is the correct difference between rod cells and cone cells of our retina ?



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**13.** With reference to the functioning of the eye, answer the questions that follow :

What is the shape of the lens during :

(a) near vision (b) distant vision ?



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

Throat infections could lead to ear infections.



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

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



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**16.** Comment upon the following:

The urine is slightly thicker in summer than in winter.



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**17.** Why is pituitary gland called the "master gland" ?



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**18.** Give biological reason for the following statement: Some women have facial hair like beard and moustache.



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



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**20.** Cytoplasmic organelle that helps in the manufacture of starch.



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**21.** Name the following :

The phenomenon by which living or dead plant cells absorb water by surface attraction .



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**22.** Name the following :

The process of conversion of ADP into ATP during photosynthesis.



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



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**24.** Correct the following statements by changing the underlined words:

(i) Normal pale yellow colour of the urine is due to the presence of the pigment Melanin.

(ii) The outermost layer of meninges is Piamater.

(iii) The cell sap of root hairs is Hypotonic.

(iv) Xylem transports starch from the leaves to all parts of the plant body.

(v) Nitrogen bonds are present between the complementary nitrogen bases of DNA.

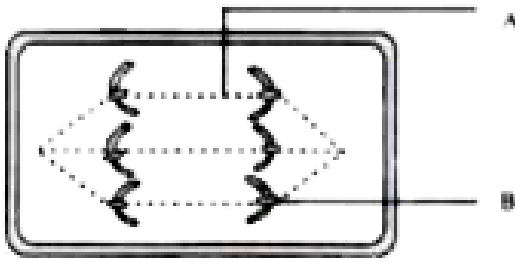


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## Section II

1. The diagram given below represents a certain stage of mitosis :





Identify the stage of cell division.



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2. Name the hormones which lead to the following conditions.

(i) Diabetes mellitus

(ii) Growth of beard in women

(iii) Myxoedema

(iv) Gigantism

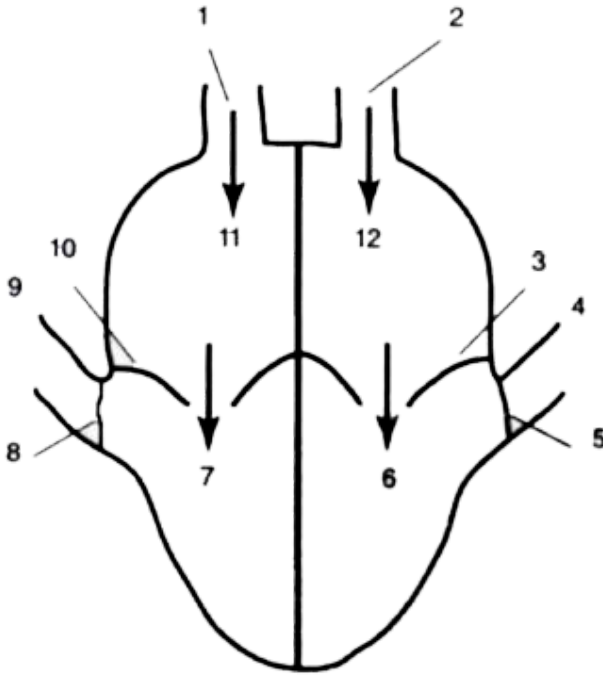
(v) Exophthalmic goiter



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**3.** The given diagram is highly diagrammatic representation of mammalian heart. In this diagram

Name the parts marked 1-12.



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4. Copy and complete the following by filling in the blanks 1 to 5 with appropriate

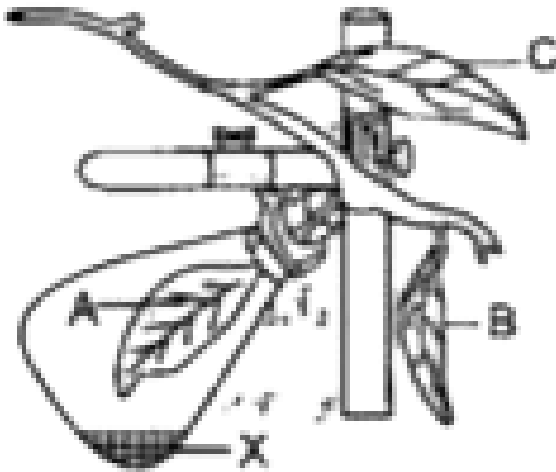
words/terms/ phrases:

To test the leaf for starch, the leaf is boiled in water.....(1) It is next boiled in methylated spirit to.....(2)The leaf is placed in warm water to soften it. It is then placed in a dish and ..... (3) solution is added. The region, which contains starch, turns...(4)and the region, which does not contain starch, turns ..... (5)



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5. The diagram below represents an experiment to demonstrate a particular aspect of a physiological process in plants. Study the diagram and answer the questions that follows:



Explain the term Destarching.

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**6.** Complete the following paragraph by filling in the blanks (1) to (V) with appropriate words:

The amount of urine output is under the regulation of a hormone called (i)\_\_\_\_\_ secreted by the (ii)\_\_\_\_\_lobe of the pituitary gland. If this hormone secretion is reduced, there is an increased production of urine. This disorder is called (iii)\_\_\_\_\_ .

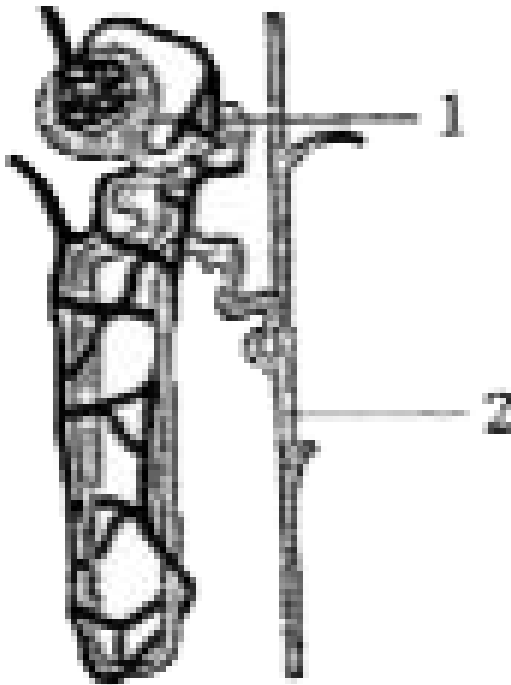
Sometimes excess glucose is passed with urine due to hyposecretion of another hormone

called (iv) \_\_\_\_\_ leading to the cause of a disease called (v) \_\_\_\_\_



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7. The diagram given below is that of a structure present in a human kidney. Study the same and answer the questions that follows :



(i) Name the structure represented in the diagram.

(ii) What is the liquid entering part T called?

Name two substances present in this liquid that are reabsorbed in the tubule.



(iii) What is the fluid that comes to part '2' called? Name the main nitrogenous waste in it.

(iv) Mention the three main steps involved in the formation of the fluid mentioned in (iii) above.

(v) Name the substance which may be present in the fluid part '1' if a person suffer from diabetes mellitus.



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**8.** 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:

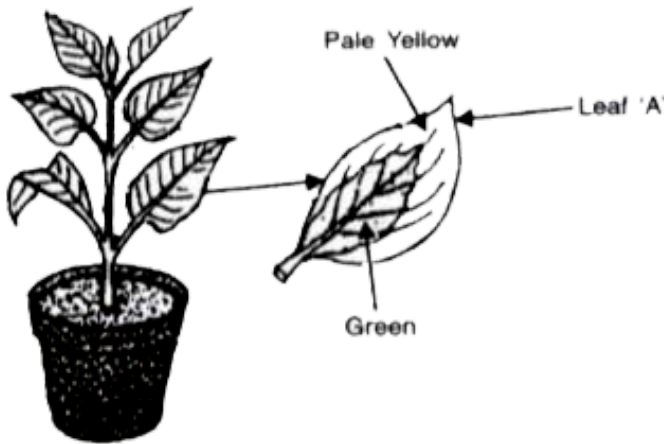
(iv) Iris of the eye:

(v) Placenta:



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9. A potted plant with variegated leaves was taken in order to prove a factor necessary for photosynthesis. The potted plant was kept in the dark for 24 hours and then placed in bright sunlight for a few hours. Observe the diagrams and answer the questions.



What aspect of photosynthesis is being tested in the above diagram?



**10.** Choose between the two options to answer the question specified in the brackets for the following:

An example is illustrated below :

Example : Corolla or Calyx (Which is the outer whorl ?) Answer : Calyx

(i) Blood in the renal artery or renal vein (Which one has more urea ?)

(ii) Perilymph or endolymph (Which one surrounds the organ of Corti ?)

(iii) Lenticels or stomata (Which one remains open always?)

(iv) Sclerotic layer or choroid layer (Which one forms the Iris?)

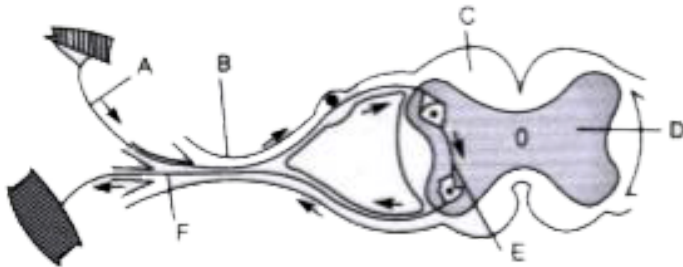
(v) Blood in the pulmonary artery or pulmonary vein (Which one contains less oxyhaemoglobin?)



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**11.** The diagram given below is a representation of a phenomenon pertaining

to the nervous system. Study the diagram and answer the following questions:



- (i) Name the phenomenon that is being depicted.
- (ii) Give the technical term for the point of contact between the two nerve cells.
- (iii) Name the parts A, B, C and D.
- (iv) Write the functions of parts E and F.
- (v) How does the arrangement of neurons in the spinal cord differ from that of the brain.



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**12. (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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