

CAMPION SCHOOL, MUMBAI
PRELIMINARY EXAMINATION

Std. X

Date : 04/01/2019

Sub : Biology

Time : 2 hours

Marks : 80

Answer to this paper must be written on the paper provided separately.

You will NOT be allowed to write during the first 15 minutes.

This time is to be spent in reading the question paper.

The time given at the head of this paper is the time allowed for writing the answer.

The intended marks for questions or parts of questions, are given in brackets []

SECTION - I (MARKS-40)

Attempt all questions in this section

Q1. A. Fill in the blanks: [Write the entire statement and underline the blank] [5]

- i. Stroma is the matrix of the _____ as well as the spongy body of the _____.
- ii. Tunica externa is the scientific term for the outermost layer of the _____.
- iii. The fovea centralis is located at the centre of the _____.
- iv. The vestibular canal of the ear is filled with _____.

Q1/B. Match the columns: [Rewrite Column A and match with the right option from Column B] [5]

Column A	Column B
i. IAA	a. Hgh
ii. Somatotropin	b. Apical dominance.
iii. Sperm	c. Hammer
iv. Malleus	d. Pesticide
v. DDT	e. Male gamete

Q1. C. State true or false. If false correct the statement by changing only the underlined word/s. [5]

- i. The uterus is called the birth canal.
- ii. Osmosis is termed as active transport.
- iii. Transpiration is the loss of cell sap from any cut or injured part of a plant.
- iv. The auditory canal of the ear is a vestigial organ.
- v. Heterotrophs are organisms that prepare their own food.

Q1. D. Cross the odd term out. State the category of the others. [5]

- i. Auricle, ventricle, ossicles, auditory canal.
- ii. Hypothalamus, infundibulum, oviduct, fallopian tube.
- iii. Mg, C, Na, H, O, N.
- iv. PCT, DCT, DPT, LOH
- v. Phototropism, chemotropism, hydrotropism, somatotropin.

Q1. E. Name the following:

- i. The pigment found in the choroid.
- ii. The pigment found in an RBC.
- iii. The pigment found in the red or orange flowers
- iv. The pigment found in the urine.
- v. The pigment found in the chloroplasts.

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Q1. F. State the full forms of: [5]
 i. ABA, ii. IAA, iii. GA₃, iv. IUD, v. FSH

Q1. G. Complete the following statements. [Rewrite the statement] [5]

- i. Parturition is the _____.
- ii. Osmosis is the movement of _____.
- iii. A reflex action is a _____.
- iv. Hormones always act on _____.
- v. A gene is a specific sequence of _____.

Q1. H. Form 5 pairs from the terms given below: [5]
 Centromere, scala media, nephron, scala vestibuli, semicircular canals, chromosomes, crypton, Mimosa pudica, Insulin, variegated leaves, osmosis, kidney, neuron, Petunia, semipermeable membrane, endolymph.

SECTION II

ANSWER ANY FOUR QUESTIONS FROM THIS SECTION.

Q2. A. Differentiate between the following based on the topic given in the bracket. [5]

- i. Stomata & hydathodes [Nature of water lost]
- ii. Ureter and uterus [Function]
- iii. Semiferous tubule & uriniferous tubule [location]
- iv. Cell wall & cell membrane [Permeability]
- v. Insulin & glucagon [Source of secretion]

Q2. B. Give the functional activity of the following: [5]

- i. Mitochondria: _____.
- ii. Umbilical cord: _____.
- iii. Retina: _____.
- iv. Stroma of chloroplast: _____.
- v. RBC: _____.

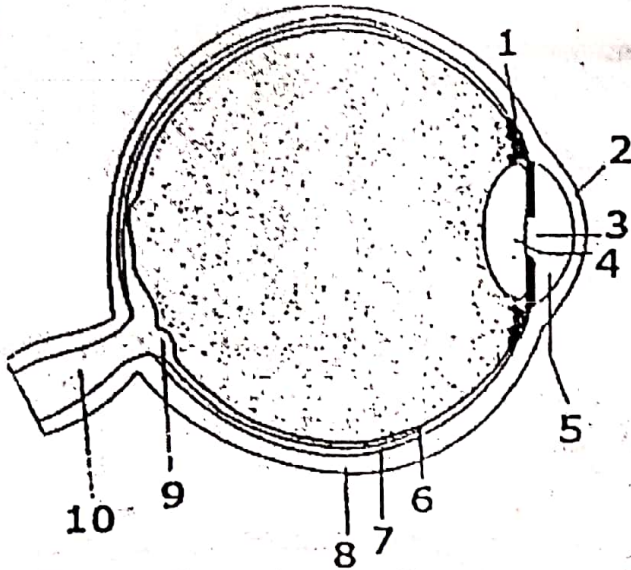
Q3. A. A pea plant that bears homozygous purple flowers is crossed with a pea plant that bears homozygous white flowers. Answer the questions based on the above information. [5]

- i. What will be the appearance of the progeny in the F₁ generation?
- ii. What will be the appearance of the progeny in the F₂ generation?
- iii. What is the genotypic ratio of the F₂ generation?
- iv. What type of a cross is this? Give a reason for your answer.
- v. Who is the father of modern genetics? What was the plant he used in his research?

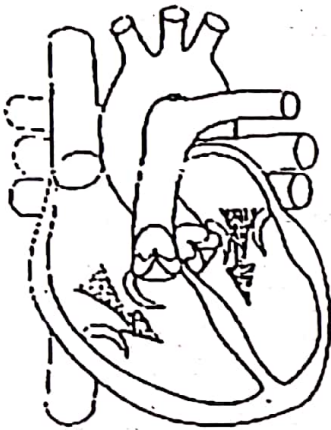
Q3. B. Draw an animal cell with 6 chromosomes and depict the metaphase stage. Label the diagram appropriately. [5]

Q4. A. Label the parts of the eye marked.

[5]



Q4. B. Study the diagram and answer the following questions:



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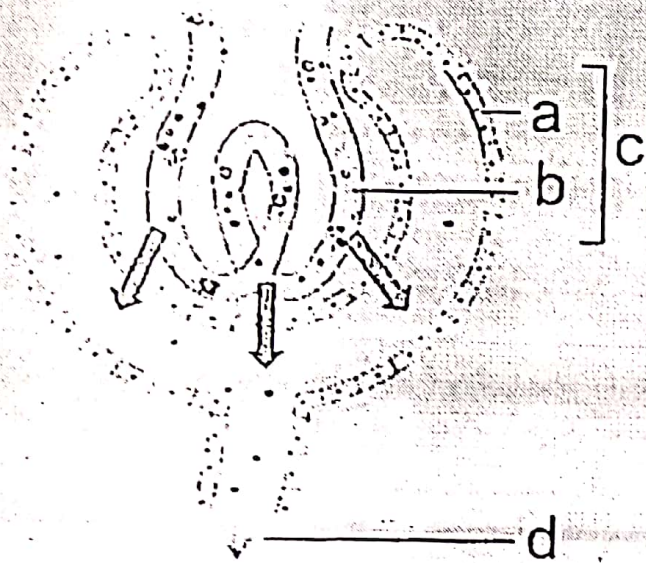
- i. Name the valves of the heart that are open & the valves that are closed. [2]
- ii. What sound would you hear if the open valves closed? [1]
- iii. What phase of the heart beat would the heart be in when the open valves would close? [1]
- iv. Which chamber of the heart has the thickest walls & why? [1]

Q5. A. Given below is a table. Rewrite the table and complete it.

[5]

Function	Hormone
i. Production of milk	
ii. Reabsorption of water in the nephrons	
iii. Controls basal metabolism	
iv. Releases extra energy in the case of an emergency.	
v. Contraction of the uterus during childbirth.	

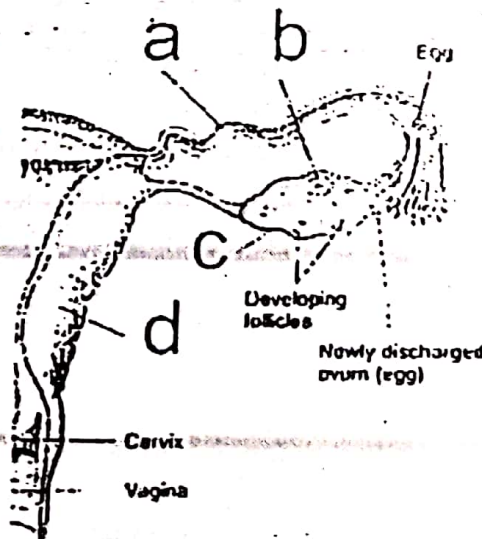
Q5. Observe the diagram and answer the questions based on it:



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- i. Label the different parts marked in the diagram. [2]
- ii. What is the process that takes place in this structure? [1]
- iii. Where is this structure specifically located? [1]
- iv. Redraw the diagram & label 2 blood vessels that are not marked in this diagram. [1]

Q6. A. Observe the diagram and answer the questions based on it:



- i. Label the parts marked in the diagram [2]
- ii. Where does fertilization take place? [1]
- iii. What are the 2 hormones that released by 'b'? [1]
- iv. If the egg released was fertilized and the resulting zygote was that of a male, what would be the chromosome number in the zygote? [1]

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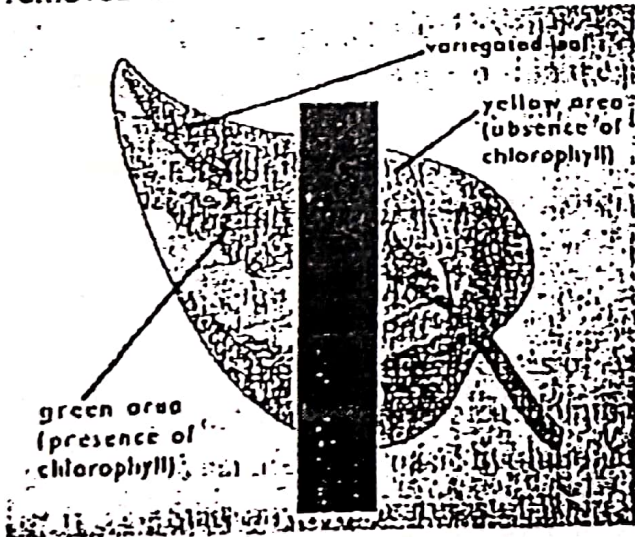
Q6. B. Two potato cups, one carved from a raw skinned potato and another carved from a boiled skinned potato were set up with a concentrated salt solution in them and water around them. Answer the questions based on the set up. [5]

- i. In which setup would you expect osmosis to take place?
- ii. Why does one have to skin the potato before the experiment?
- iii. What would your observation in both the cases be?
- iv. Explain how the principle of osmosis is used to preserve fish?
- v. What are the terms used for the concentrated salt solution and water respectively.

Q7. A. Answer the following: [5]

- i. State the cranial capacities of Australopithecus and CroMagnon.
- ii. What is meant by apical dominance?
- iii. What are the 2 basic evolutionary theories?
- iv. State any two features of Homo sapiens.
- v. Which evolutionary period or age had a prognathous face?

Q7. B. A leaf of a variegated plant was covered with a black strip of paper after the plant was destarched. This plant was then kept in bright sunlight for a few hours. The leaf was plucked, the black paper removed and the starch test was conducted on the leaf. Answer the questions based on the diagram?



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- i. What is the aim of the experiment? [1]
- ii. Name any 2 variegated plants that you can use. [2]
- iii. Redraw the leaf to show the result after the starch test. [2]
