

**ICSE Board
Class X Biology
Sample Paper - 5**

Time: 2 hrs**Total Marks: 80****General Instructions:**

1. Answers to this paper must be written on the paper provided separately.
2. You will **not** be allowed to write during the first **15** minutes.
This time is to be spent in reading the question paper.
3. The time given at the head of the paper is the time allotted for writing the answers.
4. Attempt **all** questions from **Section I** and **any four** questions from **Section II**.
5. The intended marks for questions or parts of questions are given in brackets [].

SECTION-I (40 Marks)

*Attempt **all** questions from this section*

Question 1**(a)** Name the following:

- (i) The structure that joins the two cerebral hemispheres.
- (ii) The pairing of homologous chromosomes.
- (iii) Classical example of natural selection.
- (iv) The opening on the leaf through which transpiration occurs.
- (v) The bony socket in which the eye is well protected. [5]

(b) Given below is an example of a certain structure and the special functional activity with which it is concerned.

Placenta and Nourishment.

Fill in the blanks in the following pairs to represent relationships between the structures and their special functional activity.

- (i) Cochlea and ____.
 - (ii) ____ and photosynthesis.
 - (iii) Neutrophils and ____.
 - (iv) ____ and balance.
 - (v) Myelin sheath and ____.
- [5]

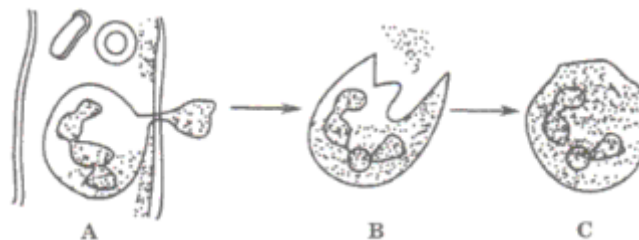
(c) Give the technical terms for the following:

- (i) It is a process by which solvent molecules move from a higher concentration to a lower concentration.
- (ii) A membrane that surrounds the foetus and secretes a protective fluid.
- (iii) A statistical study of the human population.
- (iv) A defect of the eye in which the distant vision is clear while the near vision is blurred.
- (v) The contraction phase of the heart. [5]

(d) Fill in the blanks by selecting the correct choice given in the brackets:

- (i) ____ is the act of voiding urine. (Excretion, Micturition, Sweating)
- (ii) ____ is the force developed during osmosis. (Turgor pressure, Diffusion pressure deficit, Osmotic pressure)
- (iii) Flaccid and turgid are ____ (opposite, the same, not related to each other).
- (iv) ____ is an organ which serves as a blood reservoir during an emergency. (Spleen, Lung, Heart)
- (v) The pH of blood is _____. (7.3 to 7.5, 7 to 8, 6.5 to 7) [5]

(e) Study the figures A, B and C shown below and answer the questions that follow:



- (i) Name the blood vessel shown in A.
- (ii) Name the two cells in A. Give one structural difference between the two blood cells.
- (iii) Name the processes taking place in 'A' and 'B'.
State the importance of each process. [5]

- (f) Given below are five sets with four terms each. In each set one term is odd. Choose the odd one out of the terms given and name the category to which the other three belong:

Set	Odd Term	Category
(i) Myopia, Cataract, Hypermetropia, Cretinism		
(ii) Blinking, Knitting, Crying, Blushing		
(iii) Steroids, Cortisone, Testosterone, Adrenaline		
(iv) Phloem, Root hair, Xylem, Cortex		
(v) Uterus, Cervix, Fallopian tube, Ureter		

[5]

- (g) State whether the following statements are true or false. If false rewrite the correct form of the statement by changing the first word or the last word only.

- (i) There are twelve pairs of spinal nerves.
- (ii) Insulin is produced by the alpha cells of pancreas.
- (iii) The enlarged mature follicle bursts to release the egg.
- (iv) Transpiration takes place only in green plants.
- (v) Myelin sheath insulates the axon.

[5]

- (h) Give two examples each:

- (i) Sexually transmitted diseases
- (ii) Plant hormones
- (iii) Bones in the human ear
- (iv) Methods of absorption by the roots
- (v) Eye defects

[5]

Section II [40 Marks]

*Attempt any **four** questions from this section*

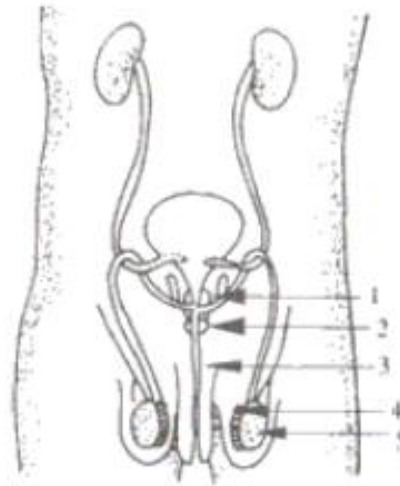
Question 2

(a) Name the following cells and state where in the human body they are found:

- (i) Living cells without nuclei
- (ii) Cell that are haploid
- (iii) Cells that secrete insulin
- (iv) Cells that conduct/transmit impulses
- (v) Cells that make antibodies

[5]

(b) The figure shows the male urinogenital system in mammals. Observe the diagram and answer the following:



- (i) Label the parts 1 – 5.
- (ii) Where are the seminiferous tubules located?
- (iii) In which tissue does the sperm mature?
- (iv) How does the sperm differ from an ovum?

[5]

Question 3
(a)

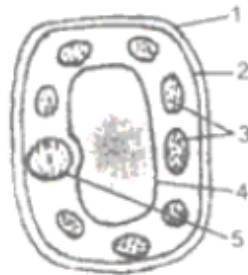
- (i) What role does iodine play in the human body?
- (ii) If you stand to make your maiden speech before a large audience your mouth dries up and the heart beat increases. What brings about these changes?
- (iii) Define osmoregulation. [5]

(b)

- (i) Draw the diagram of the condition of the eye – hypermetropia.
- (ii) What are neurons?
- (iii) Write two anatomical adaptations of the leaf to check transpiration. [5]

Question 4

(a) The figure shows a cell placed in a certain solution. Study it and answer the following:



- (i) Name the solution in which the cell was placed.
- (ii) Name the condition of the cell.
- (iii) Label the parts 1 – 5.
- (iv) State two uses of this condition to the plants. [5]

(b) The figure shows a variegated leaf.



- (i) What do you mean by a variegated leaf?
- (ii) If this leaf is treated for the iodine test, what would be the colour changes?
- (iii) Give reasons for the colour changes.
- (iv) What is the role of chlorophyll?
- (v) Why is the leaf boiled in alcohol? [5]

Question 5

(a) Answer briefly:

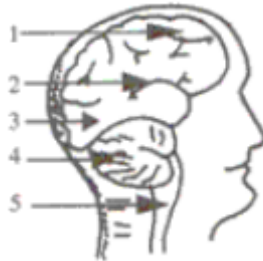
- (i) Define homologous chromosomes.
- (ii) Distinguish between renal artery and renal vein.
- (iii) Give two examples of conditioned reflexes.
- (iv) State the role of insulin.
- (v) Mention two characteristics of hormones. [5]

(b) Give scientific reasons for the following:

- (i) The oxytocin hormone is administered to pregnant women at the time of labour.
- (ii) For sexual reproduction gametes must be produced with haploid chromosomes.
- (iii) The rate of photosynthesis is low at high temperatures.
- (iv) Farmers sow seedlings in the evening.
- (v) Veins contain valves in their inner walls. [5]

Question 6

(a) The figure represents the human brain:



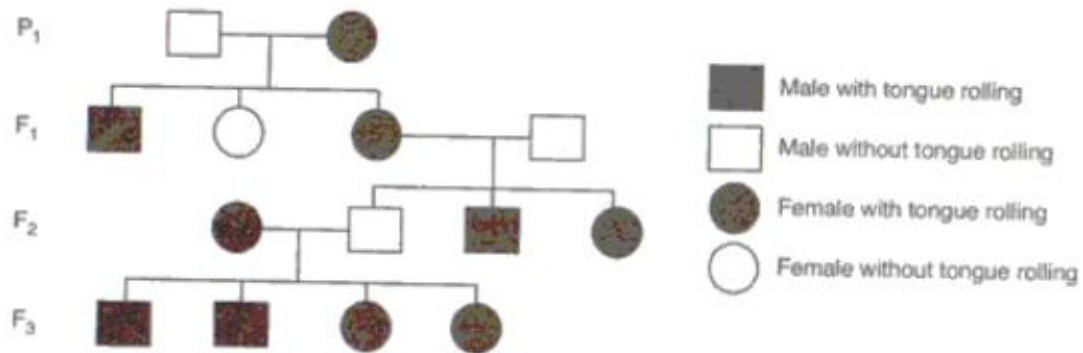
- (i) Label the parts 1 – 5.
- (ii) State the function of part 4 and 5.
- (iii) How are neurons arranged in the brain?
- (iv) How is the brain protected? [5]

(b) State the function of the following:

- (i) Aqueous humour
- (ii) Aorta
- (iii) Cytokinins
- (iv) Medulla oblongata
- (v) Spindle fibres [5]

Question 7

(a) The given pedigree chart shows tongue rolling.



- (i) Is this trait dominant or recessive?
- (ii) Give reason for the above answer.
- (iii) What is the law of dominance?

[5]

(b)

- (i) Mention two reasons for the increase in the population of India.
- (ii) Name any three vestigial organs found in humans
- (iii) Explain the term geotropism. Give one example of positive geotropism.
- (iv) Name the six ancestral forms in their correct sequence through which modern man has evolved.

[5]