

ICSE Board
Class X Biology
Gold Series
Sample Paper - 1

Time: 1½ 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.
The time given at the head of paper is the time allotted for writing the answers.
This question paper is divided into two sections.
 3. **Section I** contains one question with parts (a) to (h); all the eight parts are to be answered.
 4. **Section II** contains six questions numbered 2 to 7. You are to answer any four of these questions.
The intended marks of questions or for parts of questions are given in brackets [].
-

SECTION-I (40 Marks)

Attempt **all** questions from this section.

Question 1

(a) Give the role of the following: [5]

- (i) Prostate gland
- (ii) Placenta
- (iii) Pacemaker
- (iv) Corpus callosum
- (v) Fovea

(b) Name the following: [5]

- (i) The iron containing pigment in erythrocytes.
- (ii) The structure that brings urine from the kidney to the urinary bladder.
- (iii) The site of light reaction.
- (iv) The tissue which conducts manufactured food in plants.
- (v) The fully developed part of the ovary containing mature egg.

(c) State whether the following statements are True or False. Correct and rewrite the false statements by changing the last word only: [5]

- (i) The laws of heredity were proposed by Morgan.
- (ii) Penicillin obtained from *Penicillium notatum* is an antibody.
- (iii) Cells that have lost their water content are said to be deplasmolysed.
- (iv) Cones enable us to see three primary colours.
- (v) The fusion product of sperm and ovum is called zygote.

(d) Choose the correct alternative from the choices given below each statement so as to complete its meaning: [5]

- (i) Spraying leaves with phenyl mercuric acetate causes:
 - 1. Increased photosynthesis
 - 2. Decreased photosynthesis
 - 3. Increased transpiration
 - 4. Decreased transpiration
- (ii) Distribution of stomata per unit area of leaf and their size affect the rate of:
 - 1. Respiration
 - 2. Transpiration
 - 3. Guttation
 - 4. Absorption
- (iii) Which of the following process needs the involvement of energy?
 - 1. Diffusion
 - 2. Osmosis
 - 3. Passive transport
 - 4. Active transport
- (iv) The largest and the longest macro molecules in the cell are of:
 - 1. Proteins
 - 2. Fats
 - 3. Nucleic acids
 - 4. Carbohydrates
- (v) The correct meaning of reproduction is:
 - 1. Increase in population
 - 2. Increase in the number of parents
 - 3. Production of new individuals
 - 4. Production of identical individuals

(e) Give technical terms for the following: [5]

- (i) The process of WBC squeezing out of capillaries.
- (ii) The process in which water absorption needs metabolic energy.
- (iii) The stage where chromosomes lie on the equator of the cell.
- (iv) The alternative forms of the same gene.
- (v) A fertilized egg.

- (f)** Given below are sets of 5 terms each. Without changing the first term rearrange the remaining four, so as to be in logical sequence as per the directions given in brackets for each. One has been done for you as an example. [5]

Example: Pathogen, active immunity, produces antibodies, lymphocytes, antigen.
(defence mechanism of the body)

Answer: Pathogen → antigen → lymphocytes → Produces antibodies → active immunity.

- (i) Destarched plant, iodine added, washed in water, a leaf boiled in alcohol, placed in sunlight. (testing for presence of starch)
- (ii) Interphase, Anaphase, Prophase, Telophase, Metaphase (sequential stages in Karyokinesis)
- (iii) Seminiferous tubule, penis, urethra, epididymis, vas deferens. (course of passage of sperms in man)
- (iv) Pinna, cochlea, tympanum, ear ossicles, auditory canal (route through which vibrations of sound enter the ear)
- (v) Soil water, xylem, cortex, endodermis, root hair (conduction of water)

- (g)** Complete the following by selecting the correct word from those given in the bracket.[5]

(Stomata, Less, Hydrostatic, Hydathodes, More, Guttation) In some plants, droplets of water appear along the margin. This water comes out through special pores called ____ and the process of escape of water is known as _____. This process is due to increased ____ pressure and ____ transpiration.

- (h)** Name the hormone that regulates each of the following: [5]

- (i) Urinary elimination of water.
- (ii) Storage of glucose as glycogen.
- (iii) Milk secretion.
- (iv) Heart beat and blood pressure.
- (v) Maturation of Graafian follicle.

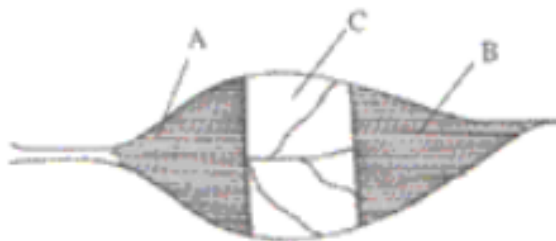
Section II [40 Marks]

Attempt any **four** questions from this section

Question 2

[10]

(a) The figure shows a leaf after an experiment.



- (i) What is the aim of the experiment?
- (ii) Which colour, part A and B shows after the experiment?
- (iii) Which colour part C will show?
- (iv) Which chemical is used for this experiment for proper result?

(b)

- (i) What is phosphorylation?
- (ii) Name two surgical methods to control population in humans.
- (iii) State two factors responsible for population growth.
- (iv) What is synapse?
- (v) What is the role of ciliary muscles?

Question 3

[10]

(a) The figure shows an endocrine gland.



- (i) Name the gland.
- (ii) Write the location of the gland.
- (iii) Name the two hormones produced by it.
- (iv) State one function of each of the above mentioned hormones.
- (v) Label the parts 1 and 2.

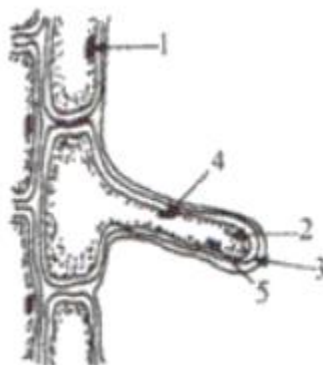
(b) Answer briefly:

- (i) What are disinfectants? Give one example.
- (ii) What are ear ossicles?
- (iii) What does the peripheral nervous system include?
- (iv) What is diapedesis?

Question 4

[10]

(a) The figure alongside is a root hair:



- (i) Label the parts 1 – 5.
- (ii) How do parts 3, 4 and 5 help in the absorption of water?
- (iii) What would happen if some fertilizers are sprinkled near the root hair in the soil?
- (iv) Define Plasmolysis.

(b) Give biological reasons for the following:

- (i) On a bright sunny day the leaves of certain plants roll up.
- (ii) Marine fish burst when thrown under tap water.
- (iii) The blood in arteries flow in spurts.
- (iv) It is advisable to breathe through nose and not through the mouth.
- (v) Lysosomes are termed as suicidal bags of a cell.

Question 5

[10]

(a)

- (i) Draw the diagram of telocentric chromosome.
- (ii) State the difference between phenotype and genotype.
- (iii) Write down the steps carried out in starch test of a leaf.

(b) With reference to human ear, answer the questions that follow:

- (i) Give the technical term for the structure found in the inner ear.
- (ii) Name the three small bones present in the middle ear. What is the biological term for them collectively?
- (iii) Name the part of the ear associated with (1) static balance (2) Hearing (3) dynamic balance.
- (iv) Name the nerve, which transmits messages from the ear to the brain.

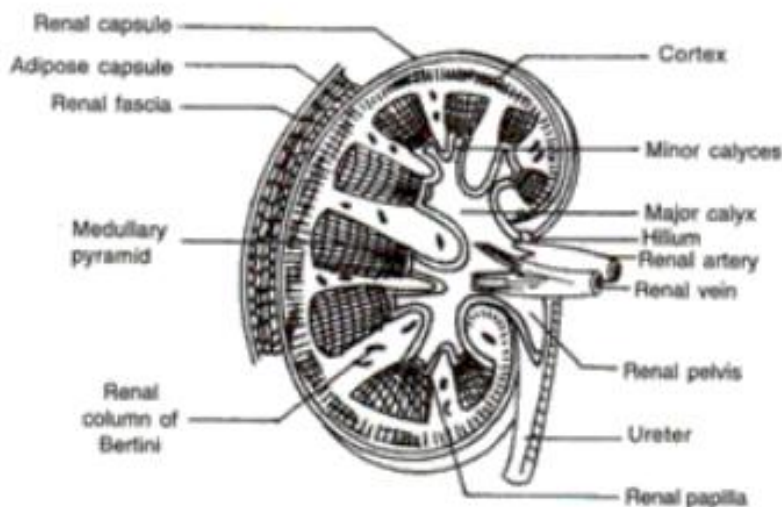
Question 6

[10]

- (a) A family consists of two parents and their five children and the pedigree chart below shows the inheritance of the trait colour blindness.



- (i) Who is a colour blind parent?
 - (ii) How many daughters and sons have been born in the family?
 - (iii) What does the child 1 indicate about this trait?
 - (iv) Complete the depiction of all probabilities of the trait among the children 2-5 in the chart.
 - (v) On which chromosome is the gene of this trait located?
- (b) Given below is the diagram of a human kidney, cut open longitudinally. Answer the following:

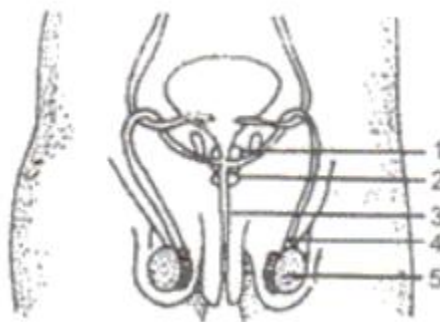


- (i) Give definition of excretion.
- (ii) Name the unit of kidney.
- (iii) Why does the cortex of kidney show dotted appearance?
- (iv) List the functions of the kidney.

Question 7

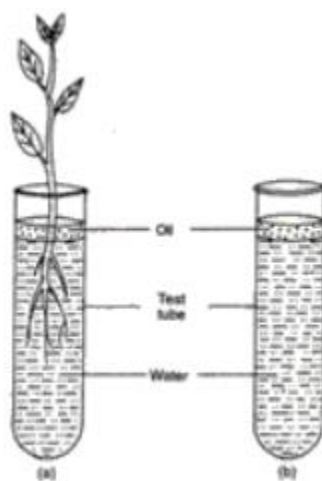
[10]

(a) Given below is the outline of the male reproductive system:



- (i) Name the parts labeled 1 – 5.
- (ii) State the functions of the prostate gland and sperm duct.
- (iii) Why is the structure 5 present outside the body in the scrotal sac?

(b) The figure below represents the set-up at the start of certain experiment to demonstrate the activity of plants:



- (i) What is the aim of the experiment?
- (ii) Why oil has been put in each test tube?
- (iii) What will be the observations in both the test tubes after about 2-3 days?
- (iv) Give reasons to explain any change observed as answered in (iii) above.
- (v) Why is the test-tube b without the plant, been taken in the experiment?