

**ICSE Board
Class X Biology
Sample Paper - 11**

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 male hormone produced by the interstitial cells.
- (ii) The blood vessels supplying blood to the kidney.
- (iii) The fluid that transports fatty acids and glycerol.
- (iv) The gas released by green plants during photosynthesis.
- (v) The condition of a cell in which the cell contents are shrunken. [5]

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

- (i) The functional unit of the nervous system is a neuron.
- (ii) Absciscic acid is a growth promoting hormone.
- (iii) Testosterone produces female sexual characters.
- (iv) Guttation is the exudation of plant sap from the injured parts of the plant.
- (v) Acetylcholine acts as a neurotransmitter. [5]

(c) Give technical terms for the following:

- (i) Plasma that is devoid of fibrinogen.
- (ii) The process by which a hydrophilic substance absorbs water.
- (iii) The type of division that takes place in the reproductive cells.
- (iv) A cross between two individuals having one pair of contrasting characters.
- (v) The cessation of menstruation in females. [5]

- (d) Given below are five sets with four terms each. In each set one term is odd. Choose the odd one out of the following terms and name the category to which the other three belong: [5]

SET	Odd Term	Category
i. Dendrite, Cyton, Axon, Macula		
ii. ADH, TSH, NADPH, ACTH		
iii. Incus, Stapes, Malleus, Eustachian tube		
iv. Stoma, Stroma, Granum, Thylakoids		
v. Skin, Saliva, Sweat, Tears		

- (e) Give two examples of each:

- (i) Endocrine glands
- (ii) Parthenocarpic fruits
- (iii) Phytohormones
- (iv) Hereditary traits
- (v) Diseases caused by bacteria

[5]

- (f) State the difference between the following pairs:

- (i) Autosomes and sex chromosomes.
- (ii) Corpus callosum and corpus luteum.
- (iii) Afferent arteriole and efferent arteriole.
- (iv) Plasmolysis and deplasmolysis.
- (v) Auxins and cytokinins

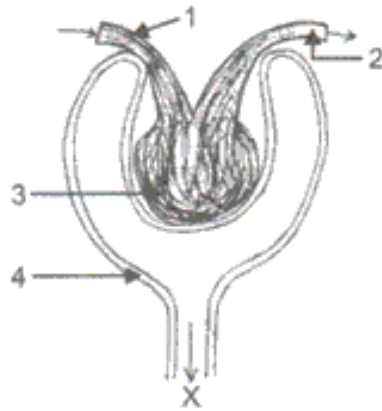
[5]

- (g) Complete the following statements:

- (i) ____ is a defect of the eye in which the optic axis of the eye becomes too short.
- (ii) ____ is the scientific name of man.
- (iii) Short-sightedness can be corrected by using a ____ lens.
- (iv) The pancreas produces the ____ hormone.
- (v) The embryo inside the uterus is protected from mechanical injury by the ____.

[5]

(h) Study the given diagram and answer the questions that follow:



- (i) Label the parts 1-4.
- (ii) State the structural difference between parts 1 and 2.
- (iii) Which stage of urine formation takes place in part 3?
- (iv) Name the liquid flowing through 'X'.

[5]

SECTION-II [40 Marks]

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

Question 2

(a) With reference to photosynthesis, answer the following questions:

- (i) What is photosynthesis?
- (ii) Write a balanced chemical equation for photosynthesis.
- (iii) In what form is glucose stored in plants?
- (iv) Name the two phases of photosynthesis.
- (v) What are the functions of the palisade parenchyma in a leaf? [5]

(b) The given figure represents an experimental set-up to demonstrate a certain phenomenon in plants. The set-up was kept in sunlight for about two hours.



- (i) What is the aim of this experiment?
- (ii) Define the process mentioned in (i) above.
- (iii) What do you observe in the experimental set-up after some time?
- (iv) Is there any control for this experiment? If so, mention it. [5]

Question 3

(a) Explain briefly:

- (i) The pancreas is an exocrine as well as an endocrine gland.
- (ii) It is necessary to keep a plant in the dark before carrying out an experiment on photosynthesis.
- (iii) Green plants are called producers.
- (iv) In banyan trees, the leaves are coated with a thick cuticle.
- (v) When the temperature is high, the rate of transpiration is also high. [5]

(b) Write briefly as indicated in the brackets:

- (i) Diabetic patient _____. (substance present in excess in the urine)
- (ii) Stomata _____. (gas given out during the day)
- (iii) Spinal cord _____. (function)
- (iv) Cochlea _____. (location)
- (v) Neuron _____. (function) [5]

Question 4

(a) With reference to the functioning of the eye, answer the following questions:

- (i) What is power of accommodation of the eye?
 - (ii) What is the shape of the lens during:
 - (1) near vision
 - (2) distant vision
 - (iii) Name the two structures in the eye responsible for bringing about a change in the shape of the lens.
 - (iv) Name the cells of the retina and their respective pigments which get activated:
 - (1) in the dark
 - (2) in the light
- [5]

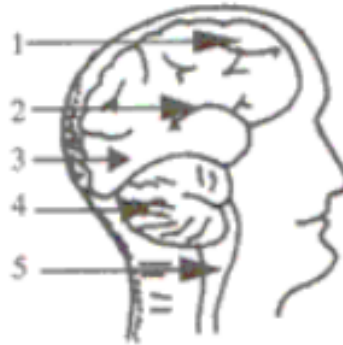
(b)

- (i) List four main characteristics of *Homo sapiens sapiens*.
- (ii) Mention the effects brought about by the autonomous nervous system on the following organs of two individuals in a street fight (one has been done for you). [5]

Organ	Sympathetic system	Parasympathetic system
Lungs	Dilates bronchi and bronchioles	Constricts bronchi and bronchioles
(1) Heart		
(2) Pupil of the eye		
(3) Salivary gland		

Question 5

(a) The given figure represents the human brain.



- (i) Label the parts 1 – 5.
- (ii) State the functions of parts 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) Ethylene
- (iv) Medulla oblongata
- (v) Spindle fibres

[5]

Question 6

(a) Write the location and function of the following:

- (i) Neurilemma
- (ii) Meninges
- (iii) Macula
- (iv) Genes
- (v) Thylakoids

[5]

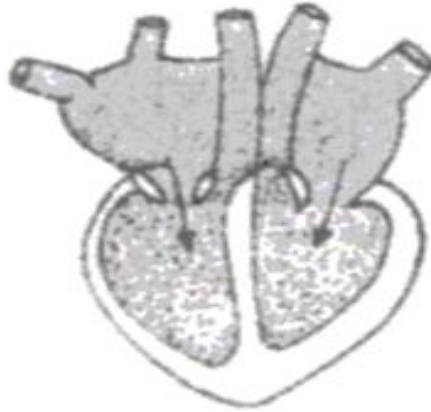
(b) Answer the following questions:

- (i) State the principles of Lamarck's theory of inheritance.
- (ii) Name two sex-linked inherited diseases and write their causes.
- (iii) State the significance of meiosis (any 2 points).
- (iv) State three advantages of a small family.

[5]

Question 7

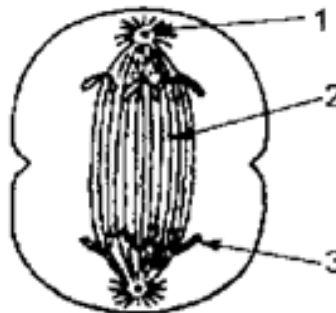
- (a)** The given figure depicts a certain phase of the heart. Study it and answer the questions that follow:



- (i) Identify the phase of the heart.
- (ii) Give two reasons to support your answer.
- (iii) Define double circulation.

[5]

- (b)** The given diagram shows a stage during cell division. Study the diagram and answer the questions that follow:



- (i) Name the parts labelled 1, 2 and 3.
- (ii) Which stage of cell division is shown in the figure? Give reasons to justify your answer.
- (iii) Where in the body does this type of cell division occur?
- (iv) Name the stage prior to this stage and draw a diagram to represent the same.

[5]