

CLASS VIII — BIOLOGY

ICSE QUESTION PAPER

Time: 2 Hours Maximum Marks: 80

GENERAL INSTRUCTIONS

1. Answers must be written neatly and legibly.
2. The paper is divided into Section I and Section II.
3. Section I is compulsory.
4. In Section II, answer any four questions.
5. The intended marks for questions or parts of questions are given in brackets [].
6. Draw neat and well-labelled diagrams wherever required.
7. Give scientific terms wherever specifically asked.
8. Read all questions carefully before answering.

SECTION I

Question 1

A. Choose the correct answer. [10 × 1 = 10]

1. The tissue which conducts water and minerals from the roots to other parts of a plant is:
(a) Phloem
(b) Xylem
(c) Cambium
(d) Epidermis
2. The loss of water in the form of water vapour from the aerial parts of a plant is called:
(a) Respiration
(b) Translocation
(c) Transpiration
(d) Guttation
3. Transfer of pollen grains from the anther to the stigma of the same flower is known as:
(a) Cross-pollination
(b) Self-pollination
(c) Fertilisation
(d) Germination
4. Which hormone is secreted by the thyroid gland?
(a) Insulin
(b) Thyroxine
(c) Adrenaline
(d) Oestrogen
5. The blood vessel which carries oxygenated blood from the lungs to the heart is the:
(a) Pulmonary artery
(b) Pulmonary vein
(c) Aorta

(d) Vena cava

6. The part of the brain responsible mainly for maintaining balance and coordination is:

- (a) Cerebrum
- (b) Cerebellum
- (c) Medulla
- (d) Spinal cord

7. Which of the following is a vector?

- (a) Housefly
- (b) Mosquito
- (c) Yeast
- (d) Mushroom

8. The rearing of honeybees for obtaining honey and wax is called:

- (a) Sericulture
- (b) Apiculture
- (c) Pisciculture
- (d) Horticulture

9. Which organism acts as a decomposer in an ecosystem?

- (a) Grass
- (b) Deer
- (c) Fungi
- (d) Tiger

10. Which of the following is a cash crop?

- (a) Wheat
- (b) Rice
- (c) Cotton
- (d) Gram

B. Give the biological terms for the following. [5 × 1 = 5]

1. The movement of water molecules through a selectively permeable membrane from a region of higher water concentration to a region of lower water concentration.
2. The process by which a pollen grain reaches the stigma.
3. The fluid portion of blood.
4. The rearing of silkworms for obtaining silk.
5. The cultivation of fruits, vegetables, flowers and ornamental plants.

C. Fill in the blanks. [5 × 1 = 5]

1. The food manufactured in leaves is transported through the _____.
2. The male reproductive part of a flower is called the _____.
3. The largest artery in the human body is the _____.
4. The basic structural and functional unit of the nervous system is the _____.
5. The practice of growing crops without the excessive use of synthetic chemicals is called _____ farming.

D. State whether the following statements are True or False. Correct the false statements. [5 × 1 = 5]

1. Phloem transports water and minerals from roots to leaves.
2. Transpiration helps in the upward movement of water in plants.
3. The heart is a four-chambered muscular organ.
4. Reflex actions are always controlled consciously by the cerebrum.
5. Producers occupy the first trophic level of a food chain.

E. Answer the following in one or two sentences. [$5 \times 1 = 5$]

1. What is root pressure?
2. What is fertilisation?
3. What is an ecosystem?
4. What is vaccination?
5. What is animal husbandry?

SECTION II

Answer any **FOUR** questions.

Question 2 — Transport in Plants [10 marks]

- (a) Define diffusion. Give one example of diffusion in a living organism. [2]
- (b) Differentiate between xylem and phloem with respect to: (i) material transported; (ii) direction of transport; (iii) main conducting elements. [3]
- (c) What is transpiration? State three factors that affect its rate. [3]
- (d) Explain briefly how root pressure contributes to the movement of water in plants. [2]

Question 3 — Reproduction in Plants [10 marks]

- (a) Name the four whorls of a typical bisexual flower. [2]
- (b) Differentiate between: (i) self-pollination; (ii) cross-pollination. [2]
- (c) Give three characteristics of insect-pollinated flowers. [3]
- (d) What is fertilisation? Describe briefly what happens after the pollen grain reaches the stigma until fertilisation takes place. [3]

OR Draw a neat, labelled diagram of a typical bisexual flower and label any six parts. [10]

Question 4 — Ecosystem [10 marks]

- (a) Define an ecosystem. Name its two major components. [2]
- (b) Explain the terms: (i) producer; (ii) consumer; (iii) decomposer. [3]
- (c) Construct a food chain using the following organisms: Grass, Snake, Grasshopper, Eagle, Frog. Indicate the direction of energy flow with arrows. [2]
- (d) Distinguish between a food chain and a food web. [2]
- (e) Why are decomposers essential for the maintenance of an ecosystem? [1]

Question 5 — Human Circulatory System [10 marks]

- (a) Name the four chambers of the human heart. [2]
- (b) Distinguish between an artery and a vein on any three points. [3]
- (c) What is double circulation? Why is it advantageous to human beings? [2]
- (d) Draw a neat and labelled diagram of the human heart. Label: Right atrium; Left atrium; Right ventricle; Left ventricle; Aorta; Pulmonary artery. [3]

Question 6 — Nervous and Endocrine Systems [10 marks]

- (a) What is a hormone? [1]

- (b) Name the hormones secreted by: (i) thyroid gland; (ii) pancreas; (iii) adrenal gland. [3]
- (c) What is a reflex action? Give one suitable example. [2]
- (d) Differentiate between sensory nerves and motor nerves. [2]
- (e) Draw a neat labelled diagram of a motor neuron and label any four parts. [2]

Question 7 — Health and Hygiene [10 marks]

- (a) What is a communicable disease? Give two examples. [2]
- (b) Complete the following table. [4]

Disease	Causative organism	Mode/vector of transmission
Malaria	_____	_____
Dengue	_____	_____
Influenza	_____	_____
HIV/AIDS	_____	_____

- (c) Differentiate between vaccination and immunisation. [2]
- (d) State two harmful effects of tobacco or alcohol consumption. [2]

Question 8 — Food Production [10 marks]

- (a) What is agriculture? Distinguish between food crops and cash crops, giving one example of each. [3]
- (b) What is organic farming? State two advantages of organic farming. [3]
- (c) Give the scientific terms for: (i) rearing of silkworms; (ii) rearing of honeybees; (iii) fish farming; (iv) growing fruits and vegetables. [2]
- (d) What is the White Revolution? [1]
- (e) Mention one important measure for maintaining hygiene in a poultry farm. [1]

Question 9 — Application and Reasoning [10 marks]

Answer the following with suitable scientific reasons.

- (a) A plant kept in a dark room for several days shows poor growth. Why? [2]
- (b) A person accidentally touches a very hot object and immediately withdraws the hand. Explain why this happens so quickly. [2]
- (c) A farmer notices that his crops grow poorly despite sufficient water. He suspects mineral deficiency. Why are minerals important for plants? [2]
- (d) A forest contains grass, insects, birds, deer, snakes, fungi and trees. Explain why removing one major group of organisms may disturb the entire ecosystem. [2]
- (e) Why should antibiotics not be taken unnecessarily without medical advice? [2]