

ICSE Sample paper
Biology
(One hour and a half)

Answer to this paper must be written in the paper provided separately. You will not be allowed to write during the first two 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 answers.

Section I is compulsory. Attempt any four questions from **Section-II**. The intended marks are given in brackets [].

Section I (40 Marks)
All questions are Compulsory

Question 1

- (a) Name the following:
- (i) The living parts of the cell
 - (ii) Specialised tissue or cells that are sensitive to taste
 - (iii) The process by which several glucose molecules are transformed to produce one molecule of starch.
 - (iv) It promotes glucose utilisation in the body in the body cells.
 - (v) The ratio obtained by crossing for a single trait. [5]
- (b) Select one suitable word from the three alternatives given to fill in the blanks in the following sentences.
- (i) The loss of water from the aerial parts of the plant is known as _____. (transportation, vaporisation, transpiration)
 - (ii) _____ solution contains a low concentration of solute relative to another solution. (hypertonic, hypotonic, isotonic)
 - (iii) The main function of _____ is to control the activities of the internal organs and other involuntary actions. (cerebrum, cerebellum, medulla oblongata)
 - (iv) Exophthalmic goitre is a form of _____. (hyperthyroidism, hypothyroidism, hyperglycemia)

- (v) _____ is a technique that is used to diagnose foetal abnormalities. (artificial insemination, amniocentesis, tubectomy) [5]
- (c) State whether the following statements are true or false. Rewrite the wrong statements in the correct form by changing **only the first or the last word**.
- (i) Population grows by arithmetic progression.
 - (ii) Vasopressin increases reabsorption of water from the ureter.
 - (iii) Byssinosis is caused due to cotton fibre flax.
 - (iv) Cellulose is a complex polysaccharide which is the principal constituent of the cell membrane.
 - (v) Anabolism is the building up of complex substances from simpler ones. [5]
- (d) Name the respective organs in which the following are found:
- (i) Corpus callosum
 - (ii) Choroid
 - (iii) Islets of Langerhans
 - (iv) Sacculus
 - (v) Interstitial cells [5]
- (e) Write the odd one out and give a reason for your answer.
- (i) Adrenal gland, thyroid gland, pituitary gland, Brunner's gland.
 - (ii) Organ of Corti, utriculus, suspensory ligament, cochlea.
 - (iii) Cuticle, chlorophyll, chloroplast, Calvin Cycle.
 - (iv) Prophase, telophase, interphase, metaphase.
 - (v) Vasectomy, tubectomy, Lippe's Loop, inoculation. [5]
- (f) State one main function of the following.
- (i) Antibiotic
 - (ii) Yolk sac in human embryo
 - (iii) Dendrite
 - (iv) Endoplasmic reticulum
 - (v) Root nodules [5]
- (g) Match the items in Column I with those in Column II
- | Column I | Column II |
|---------------|-------------------------------------|
| (i) Nucleus | (1) Gives turgidity to cell |
| (ii) Vacuoles | (2) Synthesis of respiratory enzyme |

- | | |
|-------------------|------------------------------|
| (iii) Ribosome | (3) Regulates cell division |
| (iv) Mitochondria | (4) Synthesis of protein |
| (v) Centrosome | (5) Regulates cell functions |

[5]

(h) State where the following are produced in the human body.

- (i) Cortisone
- (ii) Somatostatin
- (iii) Prolactin
- (iv) Testosterone
- (v) B-lymphocytes

[5]

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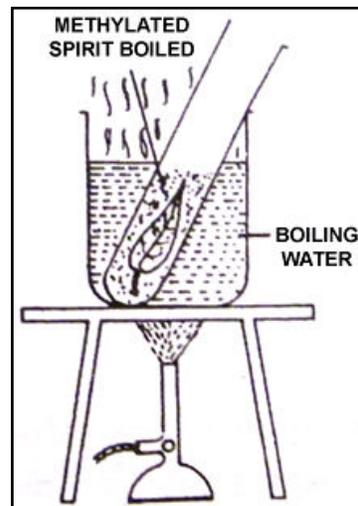
Section II (40 Marks)
(Answer any **four** questions from this section)

Question 2

(a) The figure given alongside represents the set-up used to perform an experiment to check one of the basic results of a certain plant activity.

- (i) The above statement is referring to which 'plant activity'?
- (ii) What is the aim of the experiment?
- (iii) Why is the leaf boiled in methylated spirit?
- (iv) Mention the next two steps that will complete the experiment.

[5]



- (b) (i) Name any three characteristics of roots that enhance their ability to draw water from the soil.
- (ii) Define Imbibition. Mention two important effects of imbibitional forces.

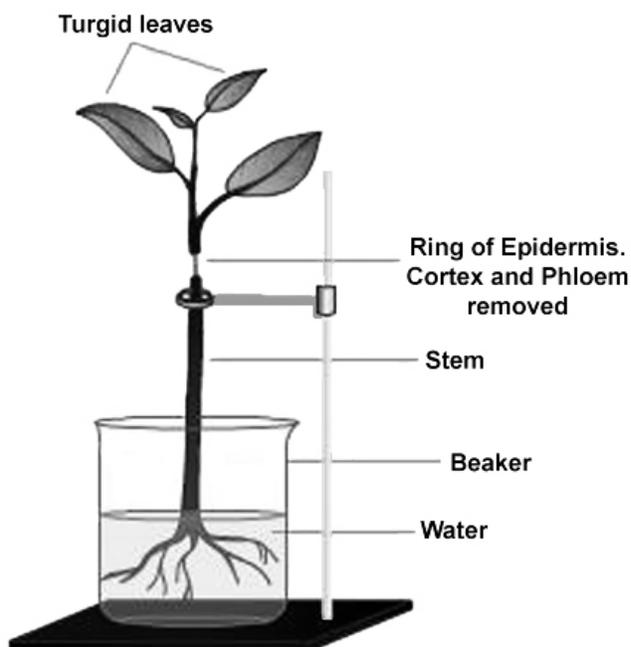
[5]

Question 3

(a) The figure given alongside describes certain physiological phenomenon in plants. Study the set-up and carefully answer the following questions.

- (i) What is the purpose of the experiment?
- (ii) Name the tissue that conducts water upwards in plants.
- (iii) Why are the leaves turgid?
- (iv) Define turgidity. What are the two uses of turgidity in plants?

[5]



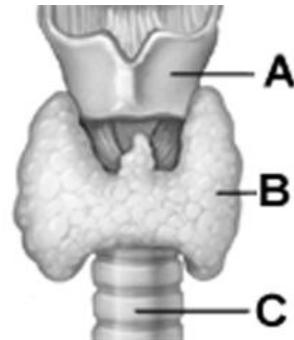
- (b) (i) What is sex-linked inheritance? Mention the two types of sex-linked inheritance and give an example of each.

- (ii) What is mutation? Give an example. [5]

Question 4

- (a) (i) Differentiate between asexual reproduction and sexual reproduction. Give four points of difference.
(ii) What is fertilisation? Where does fertilisation take place in the female reproductive system?
(iii) Mention two functions performed by the placenta. [5]

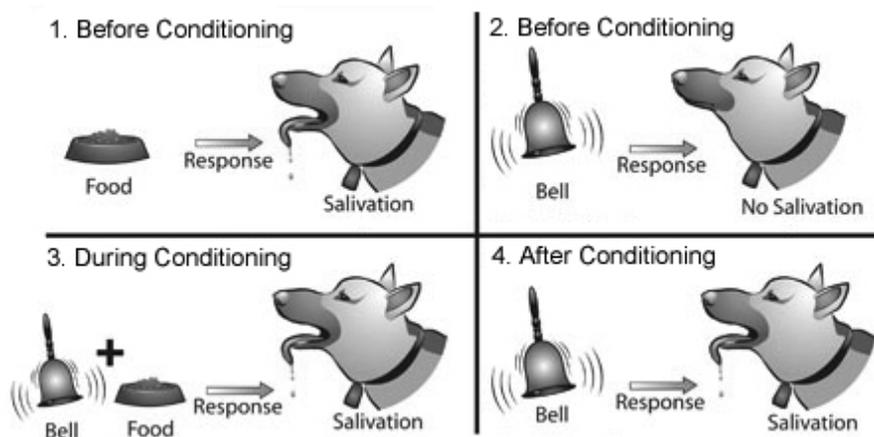
- (b) (i) Name the labelled parts of the figure given alongside.
(ii) Mention the functions of the hormone secreted from the part labelled as B in this figure.
(iii) Name the gland which activates 'B' to secrete the hormone.



[5]

Question 5

- (a) (i) State four main reasons behind the sharp rise in Indian population.
(ii) What are the six main resources that come under pressure with the rise in population?
(iii) What is the symbol of family welfare in India? [5]
- (b) Study the following figure and answer the questions that follow.

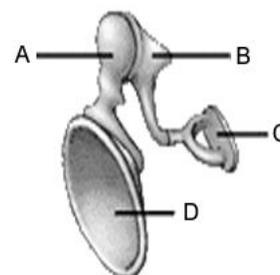


- (i) What is the aim of the experiment and who had first set it up?
- (ii) In this experiment what is the stimulus and the reflex action?
- (iii) Differentiate simple reflex from conditioned reflex. [5]

Question 6

- (a)
 - (i) What is immunity?
 - (ii) Name the two kinds of innate immunity.
 - (iii) What are the merits of local defence mechanism? [5]

- (b)
 - (i) Name the labelled parts of the figure given alongside.
 - (ii) A, B and C are collectively referred to by which term?
 - (iii) The sensory cells in the semicircular canal are associated with what kind of equilibrium?
 - (iv) Name the fluid that fills the semicircular canals. [5]



Question 7

- (a) Write brief notes on the following.
 - (i) Flavour
 - (ii) Disinfectant
 - (iii) Fraternal twins
 - (iv) WHO
 - (v) Smog [5]
- (b) Give scientific reasons for the following statements:
 - (i) Raisins swell when they are kept in water for sometime.
 - (ii) White blood cells are amoeboid in nature.
 - (iii) Most of the leaves possess a shiny upper surface.
 - (iv) We move our eyes while we read the newspaper.
 - (v) The new born baby lets out a sharp cry soon after leaving the womb. [5]