

ICSE Board
Class X Biology
Gold Series
Sample Paper - 2

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 [].
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SECTION-I (40 Marks)

Attempt **all** questions from this section.

Question 1

- (a)** Name the following: [5]
- (i) The branch of renal artery which enters into the Bowman's capsule.
 - (ii) The site of light reaction.
 - (iii) The lower part of brain which contains reflex centre.
 - (iv) The hormone responsible for ossification of bones.
 - (v) The organ that produces urea.
- (b)** State whether the following statements are True or False. Correct and rewrite the false statements by changing the first word only: [5]
- (i) Cones are photoreceptor cells that are sensitive to dim light.
 - (ii) The Beta cells of the pancreas secrete insulin.
 - (iii) Tubectomy is the surgical method of sterilization in males.
 - (iv) Guttation is the loss of water in the form of water droplets from hydathodes.
 - (v) Nephrons are the basic unit of brain.

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

- (i) Muscle node in the heart responsible to initiate the heart beat.
- (ii) The process by which complex substances are broken down to simple substances in the body.
- (iii) Complex of DNA and 8 histones.
- (iv) Absorption of water by dead cell due to surface attraction.
- (v) Disorder due to hyposecretion of vasopressin

(d) Given below are five sets of terms. In each case arrange and rewrite each set so as to be in logical sequence. [5]

- (i) Tympanum, stapes, malleus, incus, oval window.
- (ii) Graafian follicle, uterus, Funnel of oviduct, fallopian tube, ovum.
- (iii) Soil water, root hair, xylem, cortex, endodermis.
- (iv) Association neuron, effector, motor neuron, receptor, sensory neuron.
- (v) Lens, pupil, conjunctiva, yellow spot, cornea.

(e) Complete the following by choosing the correct choice from the brackets: [5]

- (i) _____ is the front chamber between lens and cornea (Vitreous Chamber, Aqueous Chamber, Macula)
- (ii) Hypersecretion of growth hormone on adults causes _____. (cretinism, gigantism, acromegaly)
- (iii) _____ is a mechanical device to control child birth is fitted on the cervix. (condom, copper-T, diaphragm)
- (iv) The centromere division occurs during _____. (Prophase, metaphase, anaphase)
- (v) The median or cochlear canal is filled with _____. (endolymph, perilymph, exolymph)

(f) Categorize the following reflexes as 'conditioned' or 'unconditioned': [5]

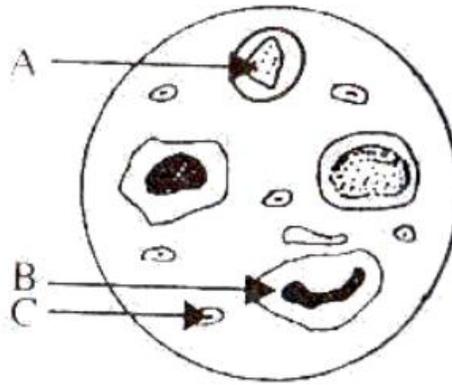
- (i) Sweating on hot weather
- (ii) Cough during swallowing
- (iii) Knitting without looking
- (iv) Sneezing
- (v) Blushing

(g) State the difference between the following pairs: [5]

- (i) Rods and Cones
- (ii) Enzymes and Hormones
- (iii) Menarche and Menopause
- (iv) Mitosis and Meiosis
- (v) Light reaction and Dark reaction

(h) The diagram represents the blood smear:

[5]



- (i) Identify A, B and C giving their scientific names.
- (ii) State one important function of each.
- (iii) State two characteristics of B that enable it to carry out its function.

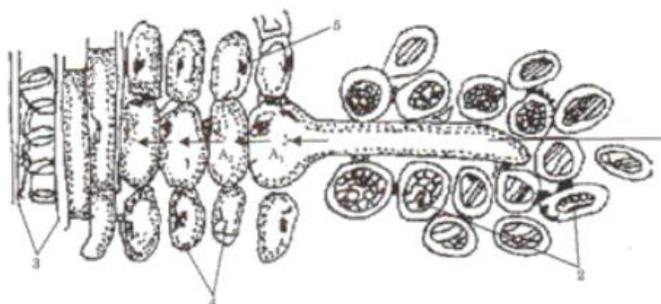
Section II [40 Marks]

Attempt any **four** questions from this section

Question 2

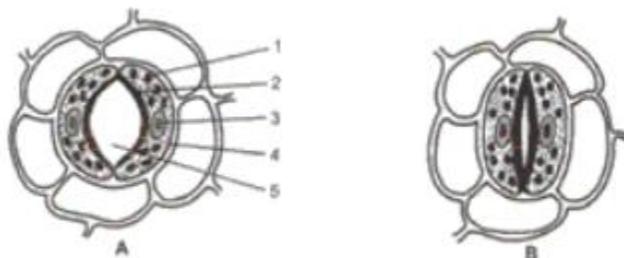
[10]

(a) The figure given is the diagrammatic representation of the cross-section of the root in the root hair zone. Study the same and then answer the questions that follow:



- (i) Name the part labeled 1 – 5.
- (ii) Is the root hair cell unicellular or multicellular?
- (iii) Draw a labeled diagram of a root hair cell as it would appear if some fertilizer is added to the soil close to it.
- (iv) What pressure is responsible for the movement of water in the direction indicated by arrows?
- (v) How is this pressure set up?

(b) Following are the diagrams of a certain structure in plants in two conditions:

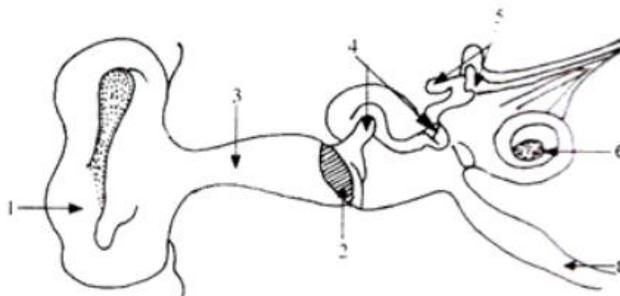


- (i) Name the structure shown.
- (ii) Name the parts numbered 1 – 5.
- (iii) What is the most apparent difference between A and B in the structure shown?
- (iv) Describe the mechanism which brings about the change in the structure depicted in A and B.

Question 3

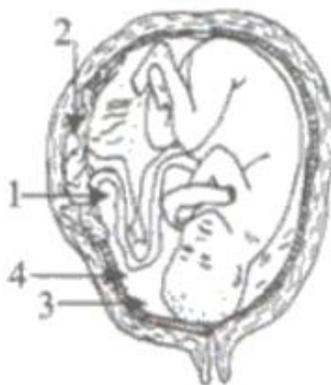
[10]

(a) The figure shows principal parts of human ear. Study the diagram and answer the following questions:



- (i) Label the parts 1 – 8.
- (ii) State the role of the parts 6 and 7.
- (iii) Why is it harmful to use a sharp object to remove the wax from ear?

(b) The figure shows human foetus in uterus:

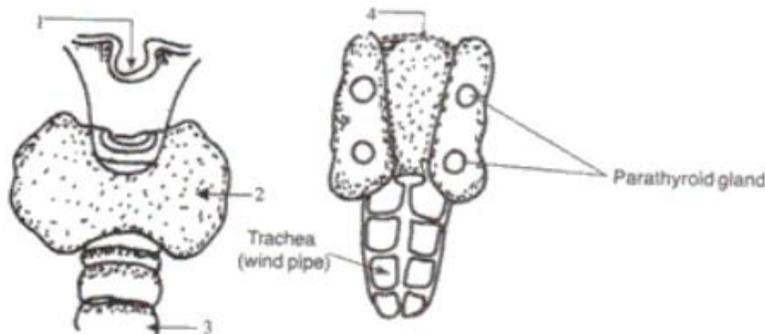


- (i) Label the parts 1 – 4.
- (ii) State the functions of part 2 and 3.
- (iii) Briefly explain the respiration of embryo.

Question 4

[10]

(a) Given alongside are the diagrammatic sketches of some endocrine glands. Observe the figures and answer the following questions:



- (i) Label the parts 1 – 4.
- (ii) Name the hormones secreted by 2.
- (iii) Which chemicals in our body are greatly affected by hormones?
- (iv) What is the chemical nature of hormones?
- (v) Name the elements related with the functioning of hormones secreted by the structure '2'.

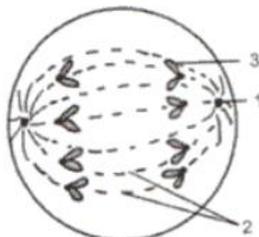
(b)

- (i) Mention two reasons for the increase in population in India.
- (ii) Write the full forms of NADP and BCG.
- (iii) Explain the term antibiotic. Give an example of an antibiotic.
- (iv) State any two functions of the World Health Organisation.

Question 5

[10]

(a) The diagram given below represents a stage during mitotic cell division in an animal cell:



(i) Identify the stage. Give a reason to support your answer.

(ii) Name the parts labeled 1, 2 and 3.

(iii) What is the chromosome number of the cell?

(iv) Draw a neat labeled diagram of the cell as it would appear in the next stage. Name the stage.

(b) Give reasons for the following:

(i) There is an increasing dependence today on natural sources of energy like sunlight and wind.

(ii) Injury to medulla oblongata results in death.

(iii) Gametes have a haploid number of chromosomes.

(iv) Green leaves are thin and broad.

(v) When the temperature is high, transpiration is also high.

Question 6

(a)

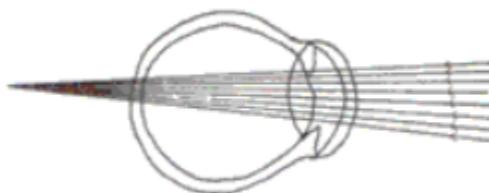
[10]

- (i) What causes 'algal bloom'? Suggest control measures.
- (ii) Write various measures pollution.

(b) Write down the full form of

- (i) CFC
- (ii) DDT
- (iii) BOD
- (iv) PAN.

(b) The diagram represents a defect vision of the human eye:

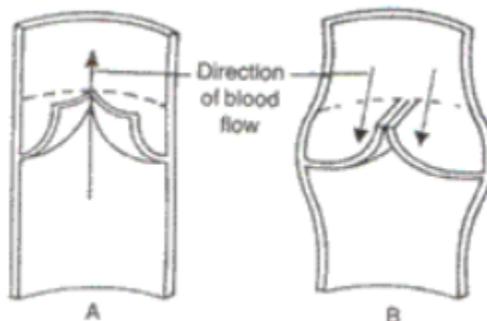


- (i) Name the defect.
- (ii) How does it affect the human being?
- (iii) Mention two causes for this defect.
- (iv) How can this defect be rectified?
- (v) What is the nature of the image that falls on the retina of a normal eye?

Question 7

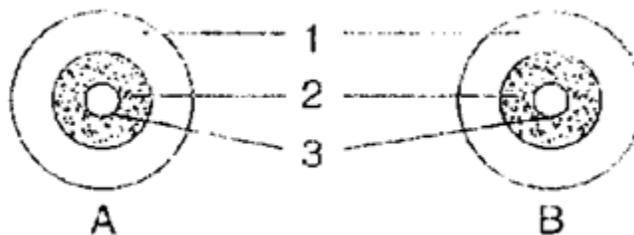
[10]

(a) The diagram below represents a certain category of blood vessels showing the role of special structure in their walls:



- (i) Name the kind of blood vessels shown?
- (ii) Name the structure shown inside the blood vessels.
- (iii) Describe the role of these structures.
- (iv) Are these structures present in any other kind of blood vessel? If so, name it.
- (v) Towards which side of the figure (top or bottom) is the heart located?

(b) The diagram below shows a mammalian eye as seen from front.



- (i) Label the parts 1, 2 and 3.
- (ii) What has caused from A to B?
- (iii) Name the muscles that bring about the change.
- (iv) What is the function of part labeled 1?
- (v) Distinguish between Presbyopia and Astigmatism.