



SEVEN ELEVEN SCHOLASTIC SCHOOL (ICSE)
SECOND PRELIMINARY EXAMINATION
2020 - 2021

Name: _____
Grade: X Div: __ Roll no _____
Subject: Biology

Date: 12th February, 2021
Marks: 80
Duration: 2hrs

Answer to this Paper must be written on the paper provided separately.
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 this paper is the time allowed for writing the answers.

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

SECTION I

Attempt **all** questions from this Section

Question 1

- a) Name the following: [5]
- The soluble protein in blood plasma responsible for clotting.
 - The exudation of sap from the injured parts of the plant.
 - The part which controls conditioned reflexes.
 - The middle coat of the eye.
 - The innermost layer of brain.
- b) Given below are sets of five terms each .Rewrite the terms in correct order in a logical sequence . [5]
- Dendrite, cyton, node of Ranvier, synapse, axon endings
 - Pinna, cochlea, tympanum, ossicles, auditory canal
 - Midbrain, diencephalon, cerebrum, medulla oblongata, cerebellum
 - Choroid, sclera, retina
 - Cortical cells, roothair, soil, water, endodermis, xylem
- c) Distinguish between the following pairs on the basis of what is given in the brackets: [5]
- Mitral valve and aortic semi lunar valve (location)
 - Turgid and plasmolysed cell (tonicity of the surrounding solution)
 - Metaphase and anaphase (position of chromatids)
 - RBC and WBC (function)
 - Transpiration and guttation (state of water)

[5]

d) Mention the exact location of the following:

- i. Iris
- ii. Nephron
- iii. Adrenal gland
- iv. Light reaction
- v. Fovea centralis

[5]

e) Choose the correct answer from each of the four options given below:

- i. Learning is related to
 - A. Cerebrum
 - B. Medulla
 - C. Cerebellum
 - D. Hypothalamus

 - ii. Nearby objects cannot be seen in
 - A. Myopia
 - B. Hypermetropia
 - C. Glaucoma
 - D. Astigmatism

 - iii. The process which controls opening and closing of stomata is
 - A. Guttation
 - B. Osmosis
 - C. Transpiration
 - D. Absorption

 - iv. The space between cellwall and plasma membrane in a plasmolysed cell is filled with the solution which is
 - A. Hypotonic
 - B. Hypertonic
 - C. Water
 - D. Isotonic

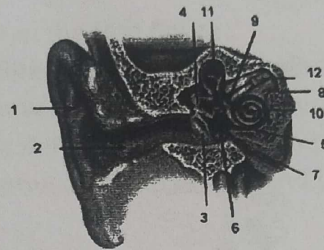
 - v. A gland which secretes both enzyme and hormone
 - A. Liver
 - B. Adrenal
 - C. Pancreas
 - D. Thyroid
- f) Given below are certain group of items. First pair indicates a relationship between the two terms .Rewrite and complete the second pair. [5]
- Example – cytoplasm : cytokinesis :: nucleus : karyokinesis
- i. Chromosome : cell division :: platelets : _____

- ii. Stomata : transpiration :: hydathode: _____
- iii. Cerebrum: intelligence :: cerebrospinal fluid : _____
- iv. Brain : meninges :: heart : _____
- v. Root hair: absorption :: Henle's loop : _____

g) Identify the odd term and name the category to which the remaining 3 belong: [5]

- i. Basophil, neutrophil, eosinophil, lymphocyte
- ii. Pulmonary vein, renal vein, hepatic vein, venacava
- iii. Grey matter, duramater, pericardium, piameter
- iv. Aqueous humor, vitreous humor, iris, central canal
- v. ACTH, TSH, ADH, FSH

h) Study the diagram and answer the following: [5]



- i. Label the parts 10 and 2
- ii. Write the function of vestibule.
- iii. Write the function of part 1.
- iv. Name the membrane covered opening that connects middle ear to inner ear
- v. Name the structure responsible for constriction of pupil in bright light

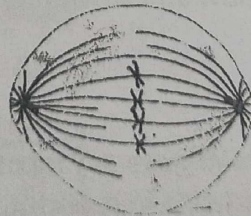
SECTION II(40 Marks)

Attempt any **four** questions from this Section

Question2

[10]

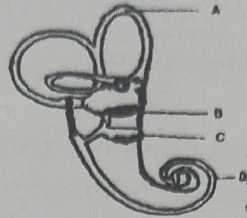
a) Study the diagram given below and answer the questions that follow:



- i. Name the stage.
- ii. Identify whether it is a plant cell or animal cell.
- iii. Write the unique feature of this stage.
- iv. Name the type of cell division in A- Formation of gametes, B- Replacement of old leaves by new ones.

v. Name the stage that comes before the stage shown in the figure.

b) Study the figure and answer the questions that follow:

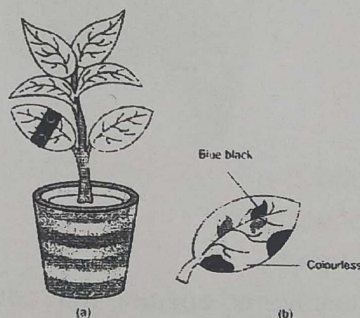


- i. Name the two membranes that divide cochlea into 3 parts.
- ii. Name the fluid which is filled in scala vestibuli.
- iii. Name the fluid that fills scala media.
- iv. Name the part of cochlear canal which is related to hearing .
- v. Name the nerve which emerges out from the internal ear.

Question 3.

[10]

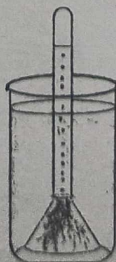
a) Observe the diagram given below and answer the questions that follow:



(a) A de-starched potted plant with part of a leaf covered with black paper strips on either side.
(b) An experimental leaf after treatment with iodine

- i. Name the factor being studied in this experiment.
- ii. Why was the plant kept in dark room before conducting the experiment.
- iii. Why was the experimental leaf kept in methylated spirit?
- iv. Name the solution used to test for presence of starch.
- v. Write the observation of starch test.

b) Study the diagram given below and answer the questions that follow:

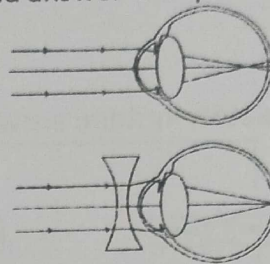


- i. Write the aim of the experiment.
- ii. Name the gas which is collected at the top of water level in the test tube.
- iii. What will happen if boiled water is taken instead of pond water.
- iv. What happens if sodium bicarbonate is added to water.
- v. Write the equation for the given process.

[10]

Question 4.

a) Study the diagram given below and answer the questions that follow:



- i. Name the defect shown in the first figure .
- ii. What type of lens is used to correct the defect?
- iii. Draw the diagram to show how the defect of hyperopia can be rectified.
- iv. Give one reason for this defect of eye shown in the diagram.
- v. Write one difference between sympathetic and parasympathetic system.

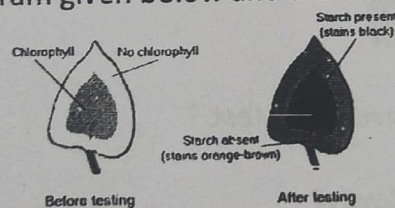
b) Give reasons for the following:

- i. Loss of nucleus and mitochondria make RBC more efficient.
- ii. Excess dose of insulin causes insulin shock.
- iii. In summer, less quantity of urine is produced.
- iv. The renal cortex has dotted appearance.
- v. Transpiration does not occur at night.

[10]

Question 5.

a) Study the diagram given below and answer the questions that follow:



- i. Write the aim of the experiment.
- ii. Why is the variegated leaf used for the experiment?
- iii. How is the leaf tested for the presence of chlorophyll?
- iv. Draw a neat and labeled diagram of chloroplast.
- v. Write the full form of NADP.

b) Explain the terms:

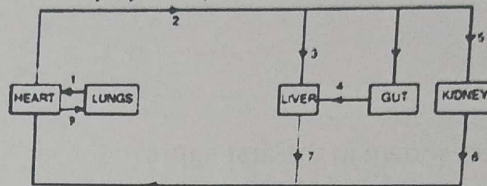
- i. Suspensory ligament

- ii. Blood clotting
- iii. Polymerization
- iv. Glomerulus
- v. Chordae tendinae

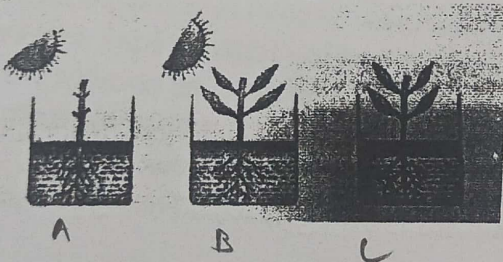
Question 6.

[10]

a) With reference to the circulatory system, answer the following:



- i. Which vessel will contain highest concentration of urea?
 - ii. Which vessel will contain highest concentration of amino acids and glucose after a meal?
 - iii. Which vessel begins and ends in capillaries?
 - iv. Which vessel will carry the most oxyhaemoglobin?
 - v. Which vessel will carry the smallest number of RBCs?
- b) The figure depicts a physiological process with the help of 3 beakers. Study the process and answer the following:



- i. In which plant would the water move up fastest ?
- ii. Why is the water covered with oil?
- iii. In which plant would water move slowly?
- iv. Write the aim of the experiment.
- v. Write any one adaptation in plants to overcome excessive transpiration.

Question 7

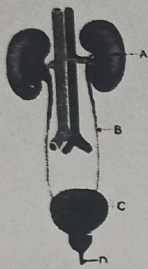
[10]

a) Study the diagram given below carefully (first cell -A ,second cell -B, third cell- C) and answer the questions that follow:



- i. Name the 3 solutions in which RBCs are kept.
- ii. Describe the changes you can observe in cell B and C.
- iii. Write your observation for cell A.
- iv. How can the cell C brought back to its original position?
- v. Name the pressure exerted by cellwall on the contents of the cell.

b) With reference to the excretory system answer the following:



- i. Where does ultra filtration take place?
- ii. Label the parts B and D.
- iii. Name the structural and functional unit of part A.
- iv. Write one difference between the blood present in renal artery and renal vein.
- v. Which part of kidney is present in the medulla region?
