

**General Instructions**

- Time : 2 Hours
- Max. Marks : 40

1. You will not be allowed to write during the first 15 minutes. This time is to be spent in reading the question paper.
2. The time given at the head of this paper is the time allowed for writing the answers.
3. Attempt all questions from **Section I** and any 2 questions from **Section II**.
4. The intended marks for questions or parts of questions are given in brackets [ ].

**Section-I**

Attempt all questions from this section. (20 Marks)

1. (a) Name the following. (5)

- (i) The cell body of a nerve cell.
- (ii) The two main stages of urine formation.
- (iii) The phase of cardiac cycle that experiences contraction of auricles.
- (iv) A change in organism observed as a result of stimuli.
- (v) Hormones secreted by islets of Langerhans.

(b) Identify the odd term in each set and name the category to which the remaining three belong. (5)

- (i) Cerebellum, Cerebrum, Spinal cord, Medulla oblongata.
- (ii) RBCs, WBCs, Platelets, Plasma
- (iii) Pulmonary artery, Pulmonary vein, Posterior vena cava, Anterior vena cava
- (iv) Sneezing, Coughing, Typing, Blinking
- (v) Axon, Myelin sheath, Schwann cells, Synapse

(c) Give suitable biological reasons for the following statements. (5)

- (i) Yellow spot of the eye is the area of best vision.
- (ii) Coagulation of blood requires vitamin-K.
- (iii) Selective reabsorption is an essential step of ultrafiltration helping in absorption of useful material.

(iv) Insufficient amount of ADH hormone results in excessive thirst and frequent urination.

(v) Veins contain valves in their inner walls.

(d) Choose the correct answer from the four options given below. (5)

(i) Formation of urea in humans takes place in

- (a) ureter
- (b) liver
- (c) spleen
- (d) kidney

(ii) The junction between the axon of one neuron and dendrite of the next neuron is termed as

- (a) bridge
- (b) junction
- (c) CSF
- (d) synapse

(iii) Prothrombin which aids in blood clotting is produced in

- (a) stomach
- (b) pancreas
- (c) kidney
- (d) liver

(iv) Body temperature in case of human beings, is maintained by

- (a) medulla oblongata
- (b) pituitary
- (c) hypothalamus
- (d) thalamus

(v) Which of the following does not related to hypothyroidism?

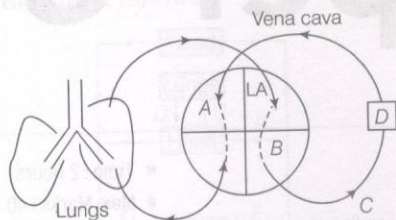
- (a) Myxoedema
- (b) Cretinism
- (c) Exophthalmic goitre
- (d) Simple goitre

## Section-II

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

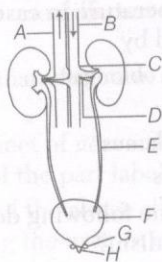
(20 Marks)

2. (a) Given below is a schematic representation of the circulatory system in man. Study the same and answer the questions that follows. (5)



- Label the parts A to D indicated in the diagram.
  - Give one difference between the parts A and B based on their structure.
  - What is the specific name of the type of blood circulation that takes place between the heart and the lungs?
  - Name the valve found at the beginning of the part labelled as C.
  - State the exact location of the pulmonary semilunar valve?
- (b) Give one difference between each of the following pairs on the basis of what is given in the brackets. (5)
- Plasma and Serum (composition)
  - Cerebrum and Spinal cord (arrangement of nerve cells)
  - Lymphocytes and Neutrophils (structure of nucleus)
  - Myopia and Hypermetropia (condition of eyeball)
  - Acromegaly and Myxoedema (cause/reason)

3. (a) The diagram given below shows the excretory system of a human being. Study the same and answer the questions that follows. (5)

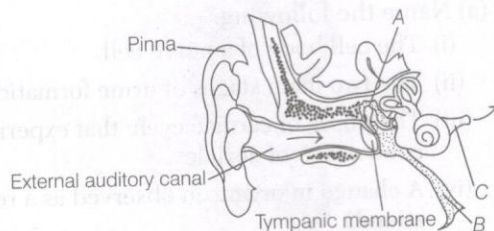


- Name the parts labelled as A, B, C and D.
- Give the main function of the parts labelled as E and H.
- Name the endocrine gland, which could be added in the diagram and state its location/position.
- Which part of the given diagram stores and produces urine?
- Name the blood vessel that carries area from the liver to the urinary bladder.

- (b) Answer the following questions briefly. (5)

- What is meant by the term ultrafiltration? Where does it occur?
- Define double circulation. What other processes are involved in it?
- State the role of parasympathetic nervous system (any two points).
- What do you mean by virilism? State any two of its symptoms.
- Name the structure that controls the master gland.

4. (a) Given below is the diagram of the human ear. Study the same and answer the questions that follows. (5)



- Give the biological term for the part labelled as 'A' and state its function.
  - Name the part labelled as 'B' and state its function.
  - Name the part labelled as 'C' and state its function.
  - Give the function of ear wax.
  - Name the three bones present in middle ear.
- (b) State the exact location of the following structures. (5)

- Anvil
- CSF
- Tubular secretion
- Pacesetter of the heart
- Spinal cord