

**ICSE Board  
Class X Biology  
Sample Paper - 10**

**Time: 2 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.*
3. The time given at the head of the paper is the time allotted for writing the answers.
4. Attempt **all** questions from **Section I** and **any four** questions from **Section II**.
5. The intended marks for questions or parts of questions are given in brackets [ ].

**SECTION-I (40 Marks)**

Attempt **all** questions from this section.

**Question 1**

**(a)** Name the following:

- (i) The innermost foetal membrane which secretes amniotic fluid.
- (ii) The branch of the renal artery which enters the Bowman's capsule.
- (iii) The blood cells whose deficiency causes anaemia.
- (iv) The principle site of photosynthesis in a green leaf.
- (v) The force which helps in the conduction of water.

[5]

**(b)** State whether the following statements are true or false. If false rewrite the correct form of the statement by changing the first word only:

- (i) Hypermetropia is a defect of the eyeball being elongated.
- (ii) Adrenal medulla produces adrenaline.
- (iii) Amniotic fluid acts as a shock absorber.
- (iv) Leaves are reduced to spines in xerophytic plants.
- (v) Medulla oblongata controls all the involuntary activities of the body like heartbeat, respiration etc.

[5]

**(c)** Give the technical terms for the following:

- (i) A chest pain due to an insufficient supply of blood to the heart muscles.
- (ii) A pressure developed in a solution when it is separated from pure water by a semipermeable membrane.
- (iii) The division of the cytoplasm.
- (iv) The term coined by F.W. Went which means to grow.
- (v) The period of complete intrauterine development of the foetus.

[5]

- (d) Given below are five sets with four terms each. In each set one term is odd. Choose the odd one out of the following terms and name the category to which the other three belong: [5]

SET	ODD TERM	CATEGORY
i. Pinna, Tympanum, Ear ossicles, Lacrimal gland		
ii. Cerebrum, Thalamus, Hypothalamus, Pons		
iii. Plasmolysis, Diffusion, Imbibition, Osmosis		
iv. Fallopian tube, Vas deferens, Uterus, Vagina		
v. Lymphocytes, Neutrophils, Acidophils, Basophils		

- (e) Complete the following statements:

- The chemical factors responsible for plant growth are called \_\_\_\_.
  - Oxygen released during photosynthesis comes from \_\_\_\_.
  - ATP stands for \_\_\_\_.
  - A highly muscular chamber of the heart is the \_\_\_\_.
  - The duct which leads from the epididymis to the urethra is the \_\_\_\_.
- [5]

- (f) Define the following:

- Crossing over
  - Reflex action
  - Evolution
  - Gestation
  - Photolysis
- [5]

**(g)** Match the items in Column I with those given in Column II:

[5]

Column I	Column II
i. Gregor Mendel	(a) Undersecretion of thyroxine
ii. Centromere	(b) Long hair
iii. Myxoedema	(c) Garden pea
iv. Dark reaction	(d) Chromatids
v. Phenotype	(e) Stroma

**(h)** Choose and write the terms that do not fit with the description:

- (i) Reflex arc - Receptor, Sensory nerve, Cerebellum, Motor nerve, Effector organ.
- (ii) Amplification of sound - Incus, Stapes, Malleus, Eustachian tube.
- (iii) Transpiration - Stomata, Cuticle, Hydathodes.
- (iv) Female reproductive system - Fallopian tube, Vas deferens, Uterus, Vagina.
- (v) Mitosis - Leptotene, Metaphase, Anaphase, Telophase.

[5]

**SECTION-II [40 Marks]**

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

**Question 2**

**(a)** Answer briefly:

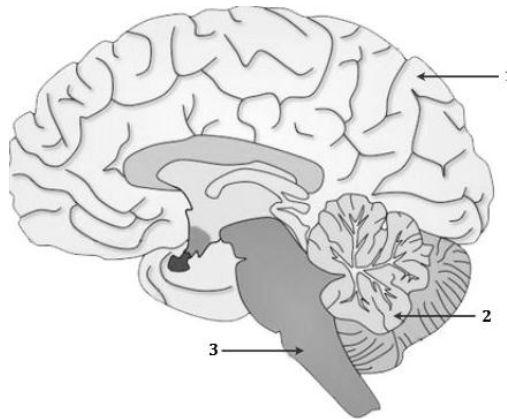
- (i) What is root pressure?
- (ii) What is synapsis?
- (iii) State the significance of turgidity in plants (one point).
- (iv) What is the effect of the hormone adrenaline?
- (v) What are vestigial organs? [5]

**(b)**

- (i) Draw a diagram of the experimental set-up to show that  $O_2$  is evolved during photosynthesis.
- (ii) What is the biosynthetic phase? [5]

**Question 3**

**(a)** The given figure represents the human brain.



- (i) Label the parts 1 – 3.
- (ii) What are receptors?
- (iii) What will happen if part '2' is damaged? [5]

**(b)** Explain the following:

- (i) After industrial revolution, dark variety of moths became hidden than the light variety.
- (ii) Goitre is common in people living in the hilly areas.
- (iii) The leaves of xerophytic plants may be modified into spines.
- (iv) The arteries are deep seated inside the body.
- (v) A person exposed to bright outdoor light after leaving a dark cinema hall is unable to see properly. [5]

**Question 4**

**(a)**

- (i) Draw a diagram of the metaphase stage of mitosis showing three chromosomes.
- (ii) Distinguish between mitosis and meiosis. [5]

**(b)** State the difference between the following pairs on the basis of what is given in the brackets:

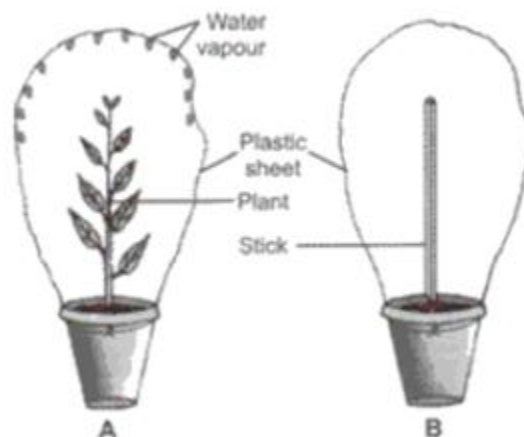
- (i) Chromosome and centrosome. (location)
- (ii) Turgidity and flaccidity. (state of the cell)
- (iii) Transpiration and guttation. (structure responsible)
- (iv) Birth rate and death rate. (definition)
- (v) Auditory nerve and optic nerve. (function) [5]

**Question 5**

**(a)** Write briefly about the following:

- (i) Rise in population in recent years
- (ii) Menopause
- (iii) Variation
- (iv) Parthenocarpy
- (v) Functions of the nervous system [5]

**(b)** An experimental set-up showing a certain phenomenon in plants is shown below. Study the diagram and answer the questions that follow:



- (i) Which phenomenon is represented in the above set-up?
- (ii) What is the purpose of pot 'B'?
- (iii) Certain xerophytic plants have a thick cuticle on their leaf surface. Give reasons.
- (iv) What is bleeding? [5]

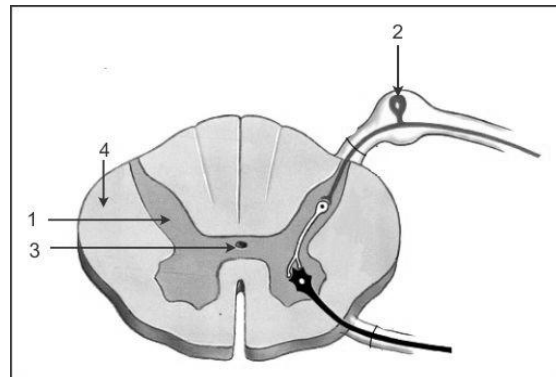
### Question 6

**(a)** Define the following:

1. Endosmosis
2. Placenta
3. Ovulation
4. Corpus luteum
5. Ultrafiltration

[5]

**(b)** Observe the given diagram and answer the following questions:



- (i) What does the diagram represent?
- (ii) Label the parts 1 – 4.
- (iii) What is the part 3 filled with?
- (iv) State the functions of the structure shown in the given diagram.

[5]

**Question 7**

**(a)** Answer briefly:

- (i) Define homologous chromosomes.
- (ii) Distinguish between renal artery and renal vein.
- (iii) Give two examples of conditioned reflexes.
- (iv) Mention the role of insulin.
- (v) State any two characteristics of hormones. [5]

**(b)** Give scientific reasons for the following:

- (i) The oxytocin hormone is administered to pregnant women.
- (ii) For sexual reproduction, gametes must be produced with haploid number of chromosomes.
- (iii) The rate of photosynthesis is low at high temperatures.
- (iv) Farmers sow seedlings in the evening.
- (v) Veins contain valves in their inner walls. [5]