

Preboard-I(2025-26)
BIOLOGY GRADE X

Maximum Marks: 80
Time allowed: Two hours

Answers 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 A is compulsory. Attempt any four questions from Section B. The intended marks for questions or parts of questions are given in brackets [].

SECTION A
(Attempt all questions from this section)

Question 1

Select the correct answer to the questions from the given options.

[15]

(Do not copy the questions, write the correct answer only).

i. **Assertion(A)** Leydig cells produce oestrogen and progesterone.

Reason(R) Leydig cells are also called as interstitial cells which are located as packing tissues between the coils of seminiferous tubules.

- (a) Both A and R are true
(b) Both A and R are false
(c) A is true and R is false
(d) A is false and R is true

ii. **Assertion(A)** Lamarck's theory of inheritance of acquired characters is mainly based on "survival of fittest".

Reason(R) Lamarck has explained his principle of 'use and disuse' with the example of Giraffe's neck.

- (a) Both A and R are true
(b) Both A and R are false
(c) A is true and R is false
(d) A is false and R is true

iii. Allen's blood report showed an abnormal decrease in the number of R.B.C. He is suffering from:

- (a) Polycythemia
(b) Erythropenia
(c) Glycosuria
(d) Haemophilia

iv. A farmer notices that storing ripe mangoes with unripe ones speeds up the ripening process. The phytohormone primarily responsible for this phenomenon is:

- (a) Auxins
(b) Cytokinins
(c) Gibberellins
(d) Ethylene

v. Reena gets emotionally stressed when the school examinations are approaching. Which hormone is responsible for this condition?

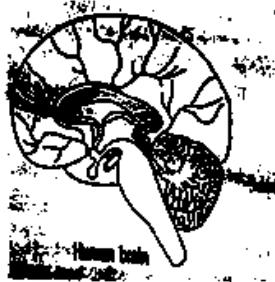
- (a) Adrenaline
(b) Thyroxine
(c) Insulin
(d) Growth hormone

vi. The hormone that maintains the thickening of the endometrium during the pregnancy is :

- (a) Oestrogen
(b) ACTH
(c) Progesterone
(d) Oxytocin

(ii) Given below is a median (sagittal) section of the human brain. Study the diagram and fill in the blanks.

[5]



Brain is a part of the (a) _____ system. Its membranous protective covering is termed as (b) _____ which consists of three layers. The thin delicate middle layer of the membranous covering is (c) _____. The largest portion of the brain is (d) _____. Brain contains the smallest endocrine gland named, (e) _____ which is considered as the 'Master gland' of the human body.

(iv) Choose the odd term and mention the category to which remaining three belong;

[5]

(i) Sulphur dioxide, Oxygen, Carbon monoxide, Nitrogen dioxide.

(ii) Pons, Epidermis, Xylem, Phloem.

(iii) Tympanum, Pinna, Auditory canal, Malleus

(iv) Stomata, Lenticles, Cuticles, Root hair

(v) Ureter, Urethra, Uterus, Renal pelvis

(v) Study the diagram given below and match with its functions.

[5]

Example: Scrotum-6. Regulates temperature of testis.

STRUCTURE	FUNCTIONS
	<ol style="list-style-type: none"> 1. Secrete testosterone 2. Transports sperms to epididymis. 3. Stores sperma still maturation. 4. Transport sperms to urethra 5. Produce sperms 6. Regulates temperature of testis.

Section B

(Attempt any four questions from this section)

Question 3.

(i) Define Evolution.

[1]

(ii) Name two abnormalities which are caused due to the hypersecretion of the growth hormone in humans.

[2]

(iii) What are biomedical wastes? Give an example.

[2]

(iv) Mr. Sharma is a 76 year old man. His vision was gradually becoming blurred. He consulted an eye doctor and it was diagnosed as cataract. [2]



- (a) Which part of the eye does cataract affect?
(b) Why does the vision become blurred?
(v) Draw a neat and labelled diagram of human sperm. [3]

Question 4.

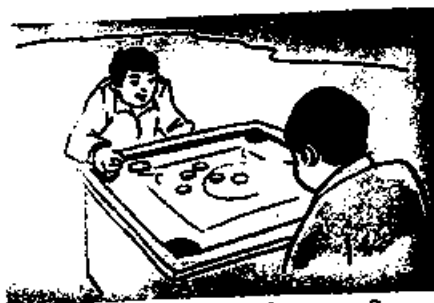
- (i) Explain Karyotype. [1]
(ii) Mention any two objectives of Swachh Bharat Abhiyan. [2]
(iii) Ahmed had a severe throat infection. After a few days he developed an earache too. What could be the reason for the pain in his ears? Explain. [2]
(iv) Identical twins are always of the same gender. Explain why? [2]
(v) Vineet's day begins with a cup of piping hot coffee. Caffeine is a stimulant present in coffee which increases the circulation of Adrenaline in the body. Vineet feels refreshed, alert and focused. [3]



- (a) Name the organ that is stimulated by caffeine which makes Vineet alert and focused.
(b) Give the collective term for the protective membranes of the organ mentioned in (a).
(c) Which part of autonomic nervous system increases the secretion of Adrenaline?

Question 5.

- (i) How does the ozone layer depletion affect life? [1]
(ii) Name the white blood cells that, a) Shows phagocytosis b) Produce antibodies [2]
(iii) Write two main important roles of vitreous humour. [2]
(iv) Ayush was in the final round of a carom match. He was focusing intently on the strokes of opponent player. [2]



- (a) Which part of the brain helps Ayush to focus on the game?
(b) Name the part of the brain that co-ordinates his muscles while using the striker.
(v) Identify the hormonal disorders with the following clues: [3]
(a) Urination is frequent and copious.
(b) Great deal of urine loaded with sugar.

(c) Person becomes sluggish and there is a swelling of the face and hands.

Question 6.

- (i) What is micturition? Explain. [1]
- (ii) Expand the following abbreviation: [2]
 - (a) CFC
 - (b) CNG
- (iii) Mention two body features of Australopithecus. [2]
- (iv) What are non biodegradable wastes? [2]
- (v) Santosh loved his garden, especially his pea plants. One year, he noticed that all the pea plants he grew from one batch of seeds had round seeds. Curious, he took the seeds from one of those plants and grew a new generation. To his surprise, 75% of the new plants had round seeds, but 25% had wrinkled seeds. [3]



- (a) What were the genotypes of the parent plants that Santosh originally planted?
- (b) What trait is dominant—round or wrinkled seeds?
- (c) What is the genotypic ratio of the second generation (F_2) plants?

Question 7.

- (i) Explain the term menarche. [1]
- (ii) Mention any two functions of amniotic fluid. [2]
- (iii) Differentiate between Diabetes mellitus and Diabetes insipidus with reference to the hormone involved. [2]
- (iv) What are some reasons of high birth rates in developing countries? (give two points) [2]
- (v) In a school experiment, a few students grow plants in pots placed horizontally as shown below. After a few days, the students observed that the roots bent downward, and the shoots curved upward. [3]



- (a) Name the tropic movement seen in shoots.
- (b) Why do roots always grow downwards?
- (c) Which phytochrome regulates the above tropic movement?

Question 8.

- (i) Explain term Natality. [1]
- (ii) Explain the functions of corpus luteum when : [2]
 - (a) Ovum is fertilised
 - (b) Ovum is not fertilised
- (iii) Why is the dark phase is called "biosynthesis"? [2]
- (iv) Write the main steps in coagulation of blood in their correct sequence. [2]
- (v) Sam observed a slide containing the lower epidermis of a leaf under a microscope. A number of [3]
connections between the epidermal cells were present as shown below in the diagram:



- (a) What are these tiny openings called?
(b) Name the cells that regulate the opening and closing of the structures.
(c) Which ion is responsible for the opening and closing of the structures?
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