MODEL SUMMATIVE ASSESSMENT - TERM II 2025-26

BIOLOGY

Class: X

Time: 1½ Hours

Total Score: 40

Instructions:

1. The first 15 minutes is cool-off time. You may use this time to read the questions and plan your answers.
2. Read the questions carefully before answering.
3. Calculations, figures, and graphs should be shown in the answer sheet where necessary.
4. Questions 5, 10, 13, 16, and 18 have internal choices.

PART I

Answer all questions from 1 to 4. Each carries 1 Score.

(4 x 1 = 4)

1. Which part of the eye contains the pigment melanin and regulates the size of the pupil? 1

(A) Cornea

(B) Iris

(C) Lens

(D) Retina

2. Identify the correct sequence of sound transmission in the ear: 222

(A) Tympanum ---> Oval window ---> Ear ossicles ---> Cochlea

(B) Tympanum ---> Ear ossicles ---> Oval window ---> Cochlea

(C) Ear ossicles ---> Tympanum ---> Oval window ---> Cochlea

(D) Oval window ---> Tympanum ---> Cochlea ---> Ear ossicles

3. Match the following plant hormones with their functions: 3

Hormone	Function
(P) Ethylene	(1) Cell division

Hormone	Function
(Q) Gibberellin	**(2)** Fruit ripening
(R) Cytokinin	**(3)** Breaking seed dormancy

(A) P-2, Q-3, R-1

(B) P-1, Q-2, R-3

(C) P-3, Q-1, R-2

(D) P-2, Q-1, R-3

4. Observe the relationship in the first pair and complete the second pair: 4

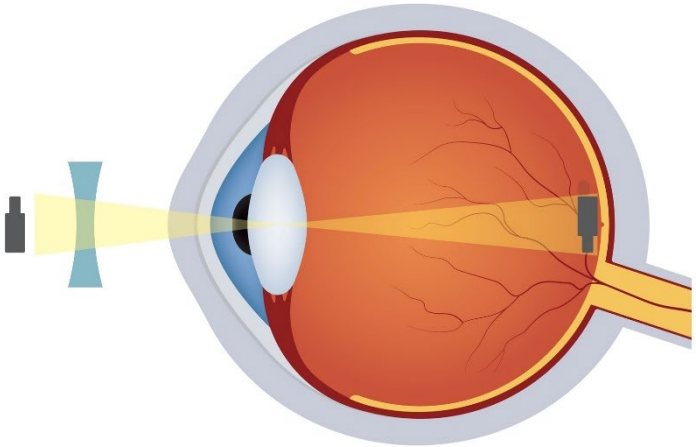
Rod cells : Rhodopsin :: Cone cells : _____

PART II

Answer any 5 questions from 5 to 11. Each carries 2 Score.

(7 x 2 = 14)

5. (A) Observe the illustration of the eye defect below and answer the questions.



a) Identify the eye defect shown in the illustration.

b) Which type of lens is used to rectify this defect?

OR

(B) "The ear helps in maintaining the balance of the body."
a) Which specific part of the internal ear is responsible for body balance?
b) How do the hair cells in this part detect the movement of the head?

6. "Food tastes bland when you have a common cold." Explain the reason for this experience based on the relationship between the sense of taste and smell.

7. Artificial plant hormones are widely used in the agricultural sector.

a) What is the scientific name for these hormones?
b) Give one example of such a hormone used as a weedicide.

8. In Regulation of glucose in blood
a) Identify the hormone produced by Beta cells.
b) How does this hormone function to lower the glucose level in the blood?

9. A doctor suggests a cataract surgery for an elderly patient.

a) What is the condition of the eye lens during cataract?
b) How is this condition treated?

10. (A) Organisms perceive the world differently.

a) How do snakes detect the smell of their prey?
b) What is the function of the lateral line system in sharks (or Ommatidia in insects)?

OR

(B) Ants move in a straight line.

a) Which chemical substance facilitates this communication?

b) Name the specific type of this chemical used for marking the path.

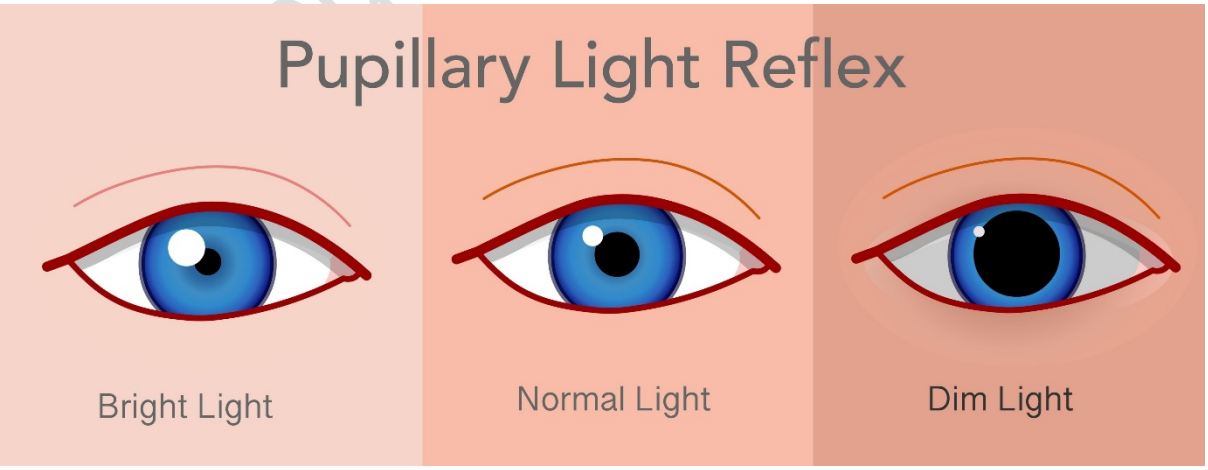
11. Explain the role of the hormone **Thymosin** in the immune system. [19]

PART III

Answer any 5 questions from 12 to 17. Each carries 3 Score.

(6 x 3 = 18)

12. Observe the illustration of the Reflex Action of the Pupil.



a) What change occurs in the pupil size in dim light?

b) Explain the action of radial and circular muscles during this change

13. **(A)** Complete the table regarding Thyroid disorders:

Condition	Cause	Symptom
Hypothyroidism	(i) _____	Weight gain, fatigue
(ii) _____	Excessive production of Thyroxine	Weight loss, high heartbeat
Goitre	(iii) _____	Swelling in the neck

OR

(B) Plants bend towards sunlight.

a) Name this phenomenon.

b) Explain the action of **Auxin** in this process when light falls from only one direction.

14. The level of calcium in the blood is strictly maintained at 9-11 mg/dL.
a) Which two hormones regulate this level?
b) Explain how the body lowers the calcium level if it increases above normal.

15. Complete the flowchart related to the sense of hearing:

Sound waves ---> Pinna ---> Auditory Canal ---> (a) ---> Ear Ossicles ---> (b) ---> Cochlea ---> (c) ---> Brain.

16. (A) Differentiate between Rod cells and Cone cells based on

a) Pigment present.

b) Shape.

c) Function in relation to light intensity/colour.

OR

(B) Observe the graph showing the level of Melatonin in the blood.

a) Which gland secretes Melatonin?

b) Why is this gland called the "Biological Clock"?

c) How does the use of mobile phones at night affect the production of this hormone?

17. Analyse the symptoms given below and identify the condition/disease:

a) Stunted growth in a child due to the deficiency of Somatotropin.
b) Excessive thirst and frequent urination due to the deficiency of Vasopressin.
c) Excessive growth of the jaw and hands in an adult due to pituitary issues.

PART IV

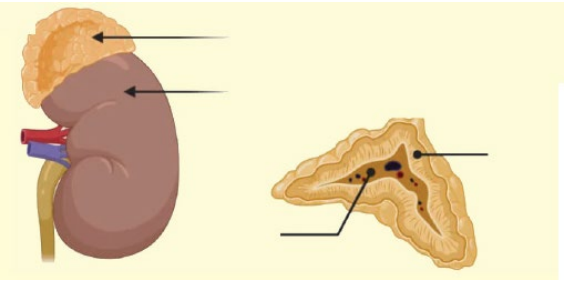
Answer any 1 question from 18. Each carries 4 Score. (1 x 4 = 4)

18. (A)
a) Why is the Hypothalamus considered the "Master Control System"?
b) Name the two hormones stored in the Posterior Lobe of the pituitary.

c) Explain the function of any two Tropic Hormones (TSH, ACTH, or GTH) secreted by the Anterior Lobe

OR

B) Observe the illustration of the Adrenal Gland.



a) Name the two main parts of the adrenal gland shown in the section.

b) Which part secretes the hormones Epinephrine and Norepinephrine?

c) How do these hormones prepare the body to deal with an emergency situation?
