SECOND TERM SUMMATIVE ASSESSMENT 2026-27

MODEL QUESTION PAPER

BIOLOGY

Std: X SET 2 **Score: 40**

Cool-off time: 15 minutes **Time: 1½ Hours**

Instructions

- The first 15 minutes is cool-off time. Use it to read the questions and plan your answers.
- Answer according to the instructions and the score given for each question.
- For questions with a choice (A or B), answer only one.

Answer all questions from 1 to 4. Each question carries 1 score. **(4 × 1 = 4)**

1. Which cells form the myelin sheath around the axons of peripheral nerves? (1)

A. Neurons B. Schwann cells C. Rod cells D. Hair cells

2. Assertion (A): Melatonin helps to regulate the biological clock of the body. (1)

Reason (R): The secretion of melatonin increases at night.

A. Both A and R are correct and R is the correct explanation of A.

B. Both A and R are correct but R is not the correct explanation of A.

C. A is correct but R is wrong.

D. A is wrong but R is correct.

3. Some statements about the ear are given. (1)

(i) The semicircular canals help to maintain the balance of the body.

(ii) The cochlea helps to maintain balance.

(iii) The Eustachian tube keeps the air pressure equal on both sides of the eardrum.

(iv) The ear ossicles are located in the inner ear.

Choose the correct statements.

A. (i) and (ii) B. (i) and (iii) C. (ii) and (iv) D. (iii) and (iv)

4. Match the disorders with their causes. (1)

Disorder	Cause
a) Cretinism	(i) Deficiency of vasopressin
b) Diabetes insipidus	(ii) Excess growth hormone in adults
c) Acromegaly	(iii) Deficiency of thyroxine in children

A. a-(iii), b-(i), c-(ii) B. a-(i), b-(iii), c-(ii)

C. a-(ii), b-(i), c-(iii) D. a-(iii), b-(ii), c-(i)

Answer all questions from 5 to 11. Questions 7 and 11 have choice. Each question carries 2 scores. **(7 × 2 = 14)**

5. Write two main ideas of Darwin's theory of natural selection. (2)

6. a) Which part of a neuron receives impulses from other neurons? (1)

b) Write the direction in which an impulse travels through a neuron. (1)

7. (A) Write two functions of the medulla oblongata. (2)

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OR

(B) Write two functions of the hypothalamus. (2)

8. We can identify the smell of jackfruit even before we see it.

a) Where are the olfactory receptors located? (1)

b) How do smell molecules stimulate these receptors? (1)

9. The skin is a sense organ.

a) Name two kinds of stimuli that the receptors in the skin can detect. (1)

b) Why are our fingertips more sensitive to touch than the skin on the back? (1)

10. The thyroid gland has follicular and parafollicular cells.

a) Name the hormone secreted by the follicular cells. (1)

b) Write the function of calcitonin. (1)

11. (A) A potted plant kept near a window bends towards the light.

a) Which plant hormone is responsible for this? (1)

b) Explain how this hormone causes the bending. (1)

OR

(B) Write two effects of ethylene on plants. (2)

Answer all questions from 12 to 17. Questions 12 and 17 have choice. Each question carries 3 scores. (6 × 3 = 18)

12. (A) Some defects affect our vision.

a) Write the cause of night blindness. (1)

b) Why are some people unable to distinguish between red and green colours? (1)

c) What happens to the lens in cataract? (1)

OR

(B) Write the path of sound from the outer ear to the brain in the correct order. (3)

13. Complete the table showing the actions of the autonomic nervous system. (3)

Organ	Sympathetic system	Parasympathetic system
Pupil	(a) _____	Constricts
Salivary glands	Reduces saliva	(b) _____
Digestion	(c) _____	Speeds up

14. Diabetes mellitus is becoming common among young people.

a) Write the reason for diabetes mellitus. (1)

b) Why is glucose seen in the urine of diabetic patients? (1)

c) Suggest two lifestyle changes that help to prevent it. (1)

15. The adrenal gland has two parts – the cortex and the medulla.

a) Write one function of cortisol. (1)

b) Write the function of aldosterone. (1)

c) Which part of the adrenal gland secretes adrenaline? (1)

16. The pituitary gland secretes many hormones.

a) Write the function of growth hormone. (1)

b) What does TSH do? (1)

c) Which hormone stimulates the production of milk after childbirth? (1)

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17. (A) Write the main function of each part of the brain.

a) Cerebrum b) Cerebellum c) Thalamus (3)

OR

(B) Proteins are synthesised in the cell.

a) What is transcription? (1)

b) What is the role of tRNA? (1)

c) Where in the cell does translation take place? (1)

Question 18 has choice. It carries 4 scores. **(1 × 4 = 4)**

18. (A) The retina contains rods and cones.

a) Name the pigment in the rod cells. (1)

b) Name the three types of cones. (1)

c) Write one difference between the yellow spot and the blind spot. (1)

d) How do the impulses produced in the retina reach the brain? (1)

OR

(B) Hormones regulate many activities in insects.

a) Name the hormone that controls moulting in insects. (1)

b) What is the function of the juvenile hormone? (1)

c) What are pheromones? (1)

d) Write one example of the use of pheromones by insects. (1)

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