SECOND TERM SUMMATIVE ASSESSMENT 2026-27

ANSWER KEY / SCORING INDICATORS

BIOLOGY

Std: X SET 1 **Score: 40**

For teachers **Time: 1½ Hours**

Note to the teacher: Accept any correct alternative answer. Give the split scores shown in brackets.

Questions 1 to 4 **(1 score each)**

1. B. Cerebellum (1)

2. A. Both A and R are correct and R is the correct explanation of A. (1)

3. B. (i) and (iii) (1)

4. A. a-(ii), b-(iii), c-(i) (1)

Questions 5 to 11 **(2 scores each)**

5. a) Thymine (1)
b) Uracil (1)

6. a) On the outer side (grey matter is inside, in an H/butterfly shape). (1)
b) Any two: conducts impulses to and from the brain; acts as the centre of spinal reflexes; coordinates some involuntary actions. (1)

7. (A) a) Sympathetic – increases the heartbeat; parasympathetic – slows it down to normal. (1)
b) Sympathetic – dilates the pupil; parasympathetic – constricts the pupil. (1)
(B) a) Between the meninges, and inside the ventricles of the brain and the central canal of the spinal cord. (1)
b) Any two: protects the brain from shocks/injury; supplies nutrients and oxygen; removes wastes; keeps the pressure inside the brain stable. (1)

8. a) Organ of Corti (in the cochlea) – its hair cells (1)
b) They (malleus, incus, stapes) carry and amplify the vibrations from the eardrum to the inner ear (oval window). (1)

9. a) In the taste buds of the tongue (1)
b) Taste depends on smell too; during a cold the nose is blocked with mucus, so smell molecules do not reach the olfactory receptors. (1)

10. a) Ethylene (1)
b) Auxin (1)

11. (A) a) Thyroid gland (1)
b) Lack of iodine in the diet, so thyroxine is not produced in enough quantity and the gland enlarges. (1)
(B) a) Gigantism (excessive growth of the body) (1)
b) Dwarfism (growth is retarded) (1)

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Questions 12 to 17 **(3 scores each)**

12. (A) a) (Spinal) reflex action (1)
b) Receptors in the skin → sensory neuron → spinal cord (interneuron) → motor neuron → muscles of the hand (effector) (2)
(B) a-(iii) Cerebrum – thinking, memory and intelligence; b-(i) Hypothalamus – controls body temperature and hunger; c-(ii) Medulla oblongata – controls heartbeat and breathing (3)

13. a) A – cornea; C – retina (1)
b) B (lens): focuses the light rays on the retina; its curvature changes to see near and far objects. (1)
c) Photoreceptors in the retina produce impulses that travel through the optic nerve to the visual area of the cerebrum. (1)

14. a) Insulin (1)
b) It converts stored glycogen in the liver into glucose and raises the blood glucose level. (1)
c) Any one: frequent urination; excessive thirst; excessive hunger; glucose in urine; wounds heal slowly. (1)

15. a) Adrenaline (epinephrine) (1)
b) Adrenal gland (adrenal medulla) (1)
c) Any two: increases breathing rate; raises blood pressure; increases blood glucose; more blood flow to muscles; pupils dilate. (1)

16. a) Pheromones (1)
b) Chemicals secreted by animals that bring about responses in other members of the same species. (1)
c) Pheromone traps attract insect pests (e.g. fruit flies), which can then be trapped and destroyed without using insecticides. (1)

17. (A) a) It secretes releasing (and inhibiting) hormones that control the secretion of anterior pituitary hormones. (1)
b) Oxytocin and vasopressin (ADH) (1)
c) It secretes hormones that control the activity of many other endocrine glands. (1)
(B) a) The junction between two neurons (or between a neuron and a muscle/gland). (1)
b) They are released from the axon ending and carry the impulse across the synaptic cleft to the next neuron. (1)
c) Acetylcholine (or dopamine) (1)

Question 18 **(4 scores)**

18. (A) a) Degeneration of neurons (nervous tissue) in the brain due to deposits of abnormal proteins. (1)
b) Deficiency of dopamine (due to degeneration of dopamine-producing neurons). (1)
c) Any one: repeated seizures (fits); loss of consciousness for a short time; uncontrolled movements. (1)
d) Treat them with love, patience and care; support them and help them take treatment; avoid isolation. (1)
(B) a) Gibberellin (1)
b) Any one: promotes cell division; delays ageing (senescence) of leaves. (1)
c) Abscisic acid (1)
d) Any one: ethephon for uniform ripening of fruits; 2,4-D as a weedicide; auxins for rooting of cuttings; to prevent fruits from falling early. (1)

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