SET C

SUMMATIVE ASSESSMENT - III - 2025-26
SSLC Model Question Paper
Biology

Std: X

Max Score: 40
Time: 1.30 hrs.

Instructions

1. The first 15 minutes are cool-off time, to read and plan the answers.
2. Read all questions and instructions carefully before answering.
3. Consider score and time while writing answers.
4. Questions 5, 10, 13, 16, and 18 carry choices.

Answer questions from 1 to 4 each carries one score **(4×1=4)**

1. Which human ancestor among the following is the contemporary of modern man? (1)
(Homo sapiens, Homo erectus, Homo habilis, Homo neanderthalensis)

2 Analyse the statements and choose the correct answer: (1)

Statement 1 : Night blindness and xerophthalmia are eye diseases caused by deficiency of Vitamin A.

Statement 2 : Prolonged deficiency of Vitamin A causes night blindness.

i) Statement 1 is true and 2 is false.

ii) Both statements are false.

iii) Statement 2 correctly explains statement 1.

iv) Both statements are true.

3. Match the different types of movements in **Column A** with the associated parts of the ear in **Column B** and choose the correct option: (1)

A Different types of movements	B Parts of the ear
P Linear movement of the head	1. Oval window
Q Rotational movement of the head	2. Hair cells of Organ of Corti
R Movement of endolymph in cochlea	3. Hair cells of vestibule
S Vibration of stapes	4. Round window
	5. Hair cells of semi circular canal

a) P-3, Q-2, R-5, S-4

b) P-3, Q-1, R-4, S-5

c) P-3, Q-5, R-2, S-1

d) P-2, Q-3, R-5, S-4

4. Choose the correct statements from the following: (1)

i. The **SRY** gene on the Y chromosome determines the development of the ovary in the embryo.

ii. Chromosomes that determine physical traits are autosomes.

iii. DNA strands wind around the histone octamer forms a structure called nucleosome

iv. In chromosome nucleosomes are connected by centromeres

a) i and ii true

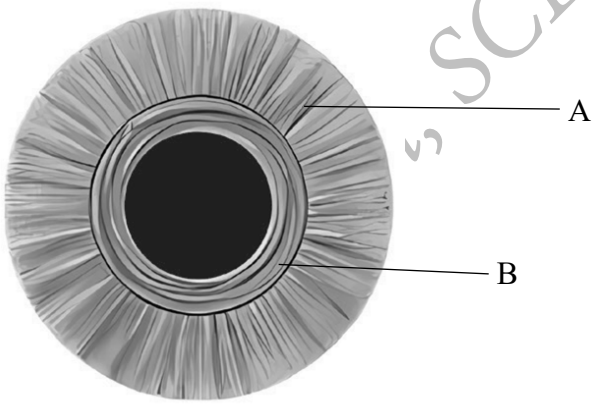
b) ii and iv true

c) ii and iii true

d) iii and iv true

Answer questions from 5 to 11 each carries 2 score **(7×2=14)**

5.A Observe the iluustration showing the muscles that control the size of the pupil and answer the questions.



i Identify the muscles A and B (1)

ii How does their action differ in bright and dim light . (1)

OR

5B. Analyse the statement and answer:

A variation in production of a neurotransmitter helps in distinguishing light and darkness.

i) Name the neurotransmitter. (1)

ii) How is darkness detected? (1)

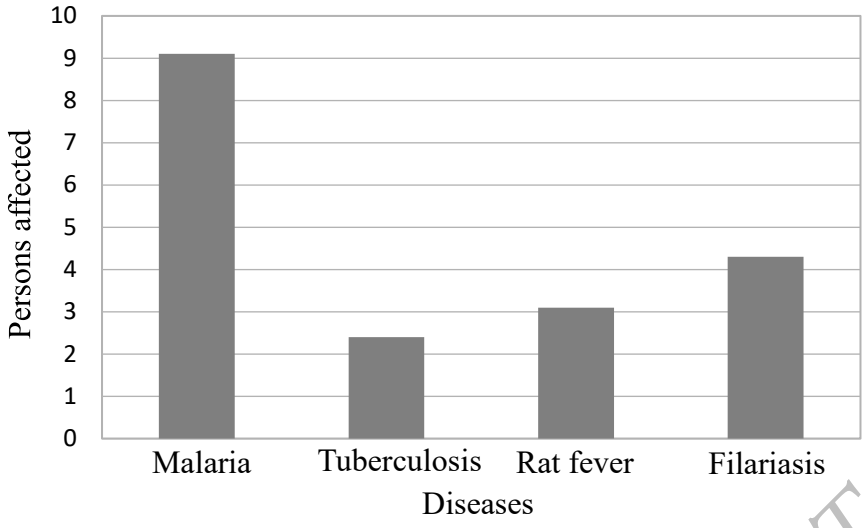
6. Read the news report and answer the questions

"DNA analysis of a fossil skull helped trace human ancestry."

i) Which technology made this possible? (1)

ii) What is the basis of this technology? (1)

7. Obsrve the graph and answer the questions



a) Which disease affected the largest number of people? (½)

b) Suggest precautions to prevent its spread. (1)

c) Identify the bacterial diseases from the graph. (½)

8. Some finch species found in the Galápagos Islands are listed in the box. (2)

Explain the formation of these species based on Darwin's theory of natural selection

insectivorous finches, cactus-eating finches, seed-eating finches.

9. Observe the figure and answer the questions (2)

If the RNA indicated becomes inactive, which stage of protein synthesis will be affected? How?

10. Analyse the table and answer the questions. (2)

Organism	**Difference in the amino acids of the beta chain as compared to humans**
Chimpanzee	0
Gorilla	1
Rat	31

a) Which branch of biology is this evidence given in the table related to? (½)

b) Explain the evolutionary relationship among these organisms based on the information? (1½)

11 A. A farmer's pepper plantation was visited by an agriculture officer and found that the plants are affected by quick wilt disease.

a) Identify the pathogen of this disease. (½)

b) What symptoms might have helped in identifying the disease? (1½)

OR

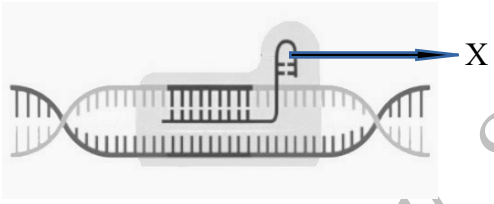
B. During a school blood donation camp, a student was given opportunity to match blood donors and recipients.

a) What factors would be considered for this? (1)

b) What happens if the donor's blood contains an antigen that is naturally absent in the recipient's blood? (1)

Answer questions from 12 to 17 each carries 3 scores **(6×3=18)**

12.

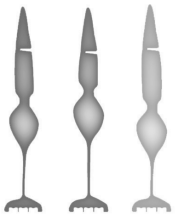


i) What does the illustration indicate? (1)

ii) Write the function of the part indicated as X (1)

iii) How does the process that occurs as a result of the action of the Cas9 enzyme bring about a change in the trait of an organism? (1)

13. Observe the illustration and answer the questions



i) Identify the type of cell shown. (1)

ii) What is the advantage of its sensitivity to different wavelengths? (2)

14 A. Read the statement and answer the questions

Currently, there is no medicine to completely cure this disease. However, through Anti Retro viral Therapy (ART), it is possible to control the multiplication of the virus and maintain the patient's immunity

i) Which disease is mentioned in the statement? How does it affect the body? (2)

ii) How can its transmission be prevented? (1)

OR

B. The box shows some proteins and enzymes involved in blood clotting: Analyse the information in the box and answer the questions.

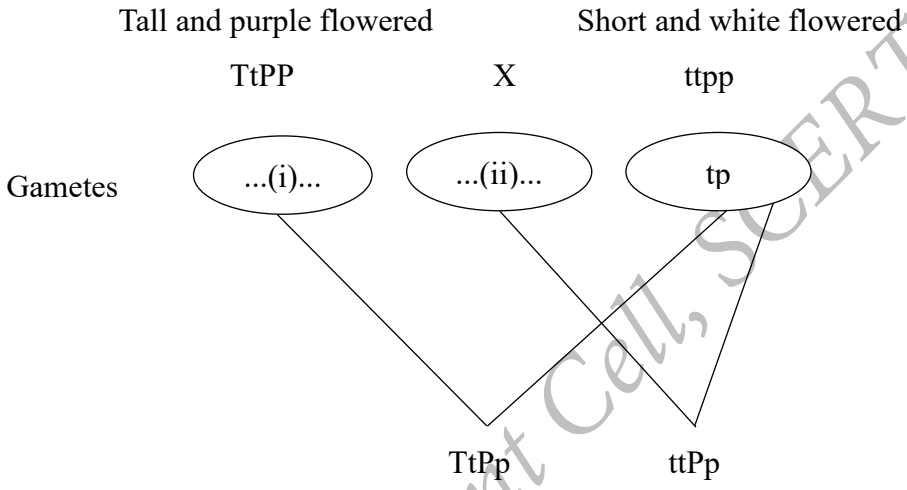
Prothrombin, Fibrinogen, Fibrin, Thromboplastin

a) Explain the process of blood clotting including the information in the sequential order. (2)

b) Beyond preventing blood loss, what is the importance of this process? (1)

15 A tall, purple-flowered pea plant (TtPP) was crossed with a short white-flowered plant (ttpp). Observe the illustration and answer the questions.

Parent Plants



i) Fill in the missing gametes ((i), (ii)) correctly (1)

ii) Did the offspring show any traits absent in parents? Explain it based on Mendel's hypothesis. (2)

16 A. Analyse the situations given below and answer the questions .

A – Calcium level in blood decreases.

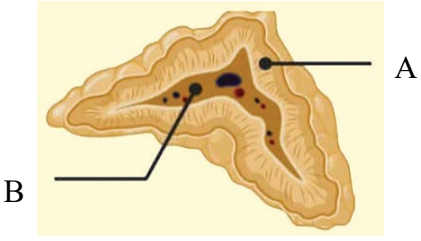
B – Calcium level in blood increases.

i) Which gland secretes the hormone required in situation B? (1)

ii) How does the hormone in situation A help maintain the normal level of calcium ? (2)

OR

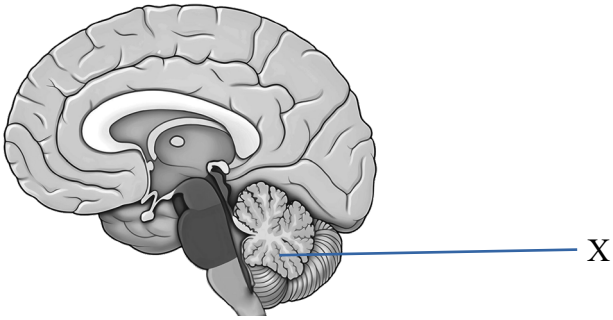
B. Observe the figure and answer the questions.



a) What are the hormones produced by A called? (1)

b) Mention any two hormones of this type and write two functions for each. (2)

17. Redraw the diagrams and anwer the questions according to the instructions.



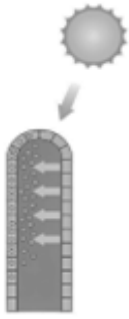
For redraw (1)

i) Label the part acting as an endocrine gland and state its function. (1)

ii) How does the part labelled X help to maintain body balance? (1)

Answer question 18. 4 Scores **(1×4=4)**

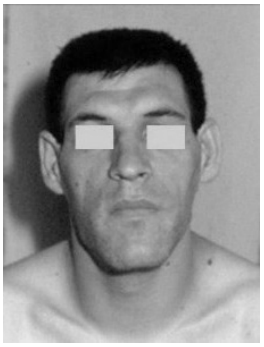
18 A. Analyse the diagram and answer the questions



i) The diagram shows movement of a hormone. Identify the hormone and the plant movement it causes. (1)

ii) How does this movement be possible? (3)

B. The figure shows a disorder related to the secretion of a tropic hormone.



a) Identify the hormone and name the hormone that controls its secretion. (1)

b) b) Mention disorders caused by its imbalance and their symptoms. (3)