SSLC MODEL EXAMINATION, MARCH - 2022

BIOLOGY

(English)

Time : 1½ Hours | Total Score : 40

General Instructions :

- There is a 'cool-off time' of **15** minutes in addition to writing time. Use this time to get familiar with questions and to plan your answers.
- Questions with different scores are given as distinct parts.
- Read instructions carefully before answering the questions.
- Keep in mind, the score and time while answering the questions.
- The maximum score for questions from **1** to **24** will be **40**.

Score

PART - I

(A) Answer any four questions from 1 to 6. Each carries 1 score. **4x1=4**

1. Which of the following statements is related to mucous membrane ? **1**

   (a) Keratin is present (b) Sebum makes it oily

   (c) Cilia cells present (d) Sweat glands present

2. Nitrogen bases in DNA are given below. Make them into suitable pairs. **1**

   (Adenine, Thymine, Guanine, Cytosine)

   Adenine : _____

   Guanine : _____

3. If there is mistake in the underlined portion, correct it. **1**

   (a) Leptospira is the pathogen that causes Diphtheria.

   (b) Rat fever is a bacterial disease.

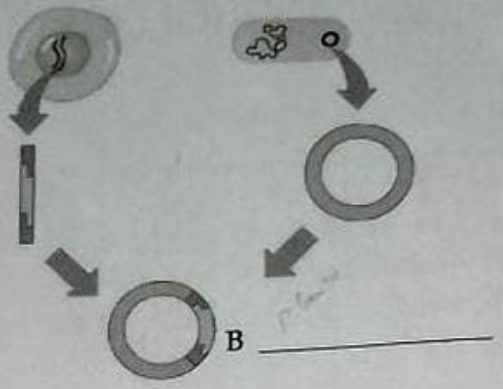
4. Complete the illustration according to the model given below. **1**

Musk Deer	——	Muscone	
Female Silk worm moth	——	_____	

Score

5. Some of the stages in the production of Insulin through genetic engineering is given below. Identify the step labelled as B. 1

A Cutting of insulin producing gene



6. Identify the word pair relation and complete the following : 1

Rod cells : Rhodopsin

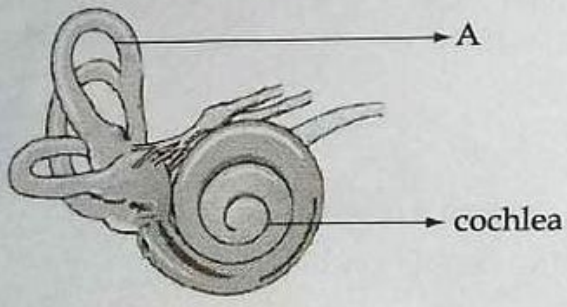
Cone cells : _____

(B) Answer all questions from 7 to 9. Each carries 1 score. 3x1=3

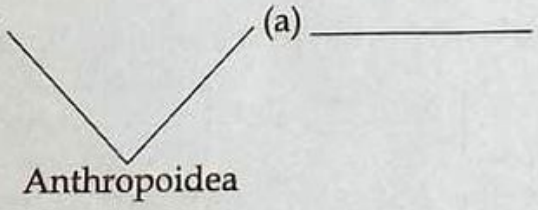
7. Find out the odd one and write the common feature of others. 1

Glycogen is converted to glucose, Trachea expands, Pupil dilates, Production of saliva increases.

8. Write the function of the part labelled as A in the figure. 1



9. Complete the illustration related to evolution of human beings.



PART - II

Score

(A) Answer the following question. Carries 2 score. 1x2=2

10. Analyse the statement and answer the questions given below.

"Treatment using genetic engineering, triggered great hope in the control of genetic diseases".

(a) What is this method of treatment called ? 1

(b) What is the specific feature of this method of treatment ? 1

(B) Answer any one questions from 11 to 12. Each carries 2 score. 1x2=2

11. Complete the table related to human chromosomes suitably. 2

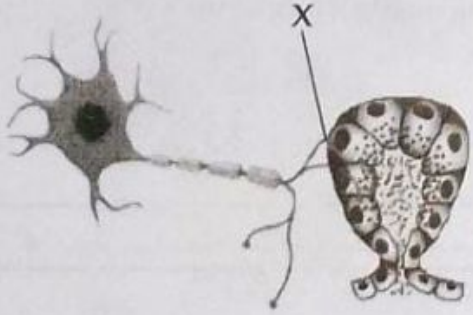
Total number of chromosomes	(a) _____
(b) _____	44
Sex chromosomes	2

12. "There is a common ancestor for all the different species that exist today". Write any two evidences which support the above statement from Biochemistry and Physiology. 2

PART - III

(A) Answer any three questions from 13 to 16. Each carries 3 score. 3x3=9

13. Observe the figure of synapse and answer the following questions.



(a) Which synapse is shown in the figure ? 1

(b) What is a synapse ? 1

(c) Name the chemical substance which is secreted from the part labelled as X. 1

P.T.O.

Score

14. Analyse the part of the pamphlet and answer the questions.

> **The disease can be transmitted by the sharing needle and syringe contaminated with HIV components**

(a) Identify the disease mentioned in the pamphlet. 1

(b) How does this disease affect the immune system of the body ? 2

15. Analyse the statement and answer the questions.

"The normal level of glucose in blood is 70-110 mg/100 ml. The level of glucose in blood is maintained by the combined action of two hormones".

(a) Which are the two hormones mentioned here ? 1

(b) How do these hormones regulate the level of glucose in blood ? 2

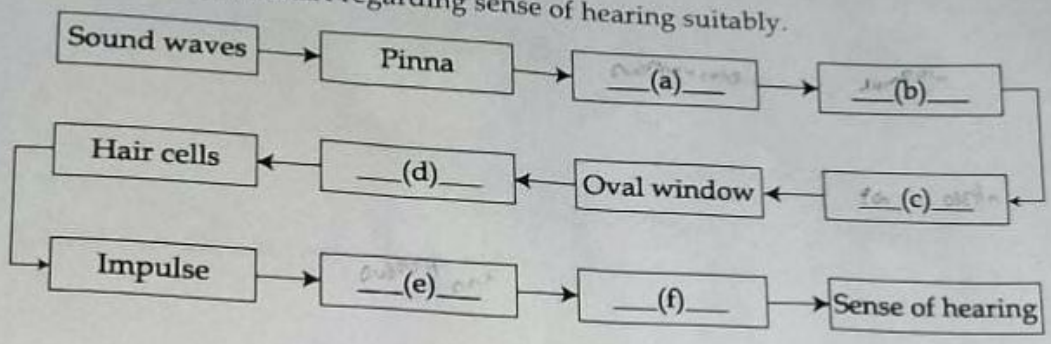
16. Some facts regarding lymphocytes are given below. Arrange them in the table giving suitable headings. 3

- Neutralise the toxin of the antigens.
- Destroy the cells affected by virus.
- Destroy the bacteria by disintegrating their cell membrane.
- Destroy cancer cells.
- Destroy the pathogens by stimulating other white blood cells.

B-lymphocytes	_____
•	•
•	•
•	Stimulate other defense cells of the body

(B) Answer the following question. Carries 3 score. Score 1x3=3

17. Complete the flow chart regarding sense of hearing suitably. 3



PART - IV

(A) Answer any two of the questions from 18 to 20. Each carries 4 score. 2x4=8

18. Analyse the information given in the box and answer the questions.

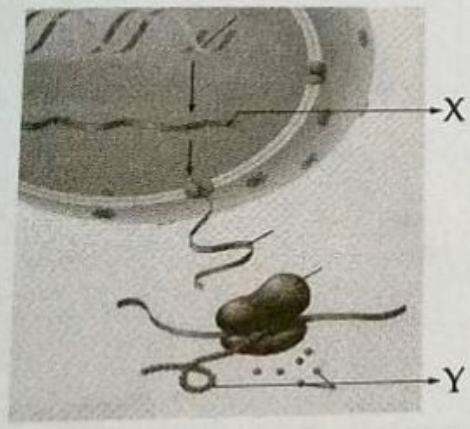
- Artificially recreated the atmosphere of primitive earth.
- Organic molecules were formed.

(a) Which theory on the origin of life is proved through this experiment ? 1

(b) Name the scientists who conducted this experiment for the first time. 1

(c) Briefly describe the experiment. 2

19. Observe the illustration and answer the questions.



(a) Identify the process illustrated here. 1

(b) What does X and Y indicate ? 2

(c) What is the role of transfer RNA in this process ? 1

20. Analyse the figure and answer the questions.

(a) Identify the disease. 1

(b) What is the cause of this disease ? 1

(c) How does the deformity of red blood cells affect the patients body ? 2

(B) Answer any one questions from 21 to 22. Each carries 4 score. **1x4=4**

21. Different processes involved in inflammatory response are given below.

- White blood cells reach the wound site through the walls of the capillaries.
- Chemicals are produced.
- White blood cells engulf and destroy germs.
- Germs enter through wounds.
- Blood capillaries dilate.

(a) Arrange the processes involved in inflammatory response in sequential order. 2

(b) Name the white blood cells involved in this process. 1

(c) What is the advantage of dilation of the capillaries at the wound site ? 1

22. Analyse the information given in the box and answer the questions.

(A) The water like fluid provides oxygen and nourishment to the tissues of the eye.
(B) The jelly like fluid seen in the chamber between the retina and the lens.

(a) Identify the fluids (A) and (B). 1

(b) How fluid (A) is formed ? 1

(c) Name the eye disease related to the fluid (A). 1

(d) What is the function of fluid (B) ? 1

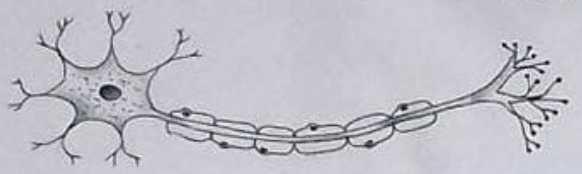
Continued...

Score

PART - V

(A) Answer any one question from 23 to 24. Each carries 5 score. 1x5=5

23. Redraw the diagram identify and label the parts given below.



Redrawing 1

(a) Longest filament from the cell body. 1

(b) Secretes neurotransmitter. 1

(c) Part that receives impulses from adjacent neuron. 1

(d) Carries impulses to the cell body. 1

24. Complete the table relates to plant hormones and their functions. 5

(a) _____	Auxin	(d) _____	Ethylene
sprouting of leaves	(b) _____ (c) _____	falling ripened leaves and fruits	(e) _____

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