(Pages : 8)

ME 935

Sl. No.

SSLC MODEL EXAMINATION, MARCH - 2021

BIOLOGY

(English)

Time : 1½ Hours

Total Score : 40

Instructions :

- 20 minutes is given as cool-off time.
- Use cool-off time to read the questions and plan your answers.
- Attempt the questions according to the instructions.
- Keep in mind, the score and time while answering the questions.
- The maximum score for questions from 1 to 36 will be 40.

Score

(1 score for each questions from 1 to 10)

1. Identify the word pair relation and fill in the blank. 1

   Female silkworm moth : Bombykol

   Civet cat : _____

2. Correct mistakes if any in the underlined part of the given statements. 1

   (a) The layer which has photoreceptors is called Retina .

   (b) Yellow spot is the part of retina having no vision.

   (c) The aperture seen at the centre of iris is called pupil .

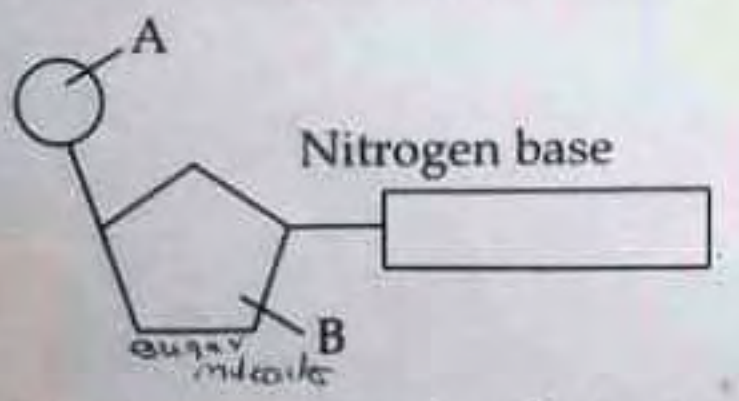
3. Eye —X→ Brain 1

   What does X indicate ?

   • Sensory nerve • Motor nerve • Mixed nerve

   • Interneuron

4. Observe the given figure and identify the parts labelled as A and B. 1



5. Hint on a theory of evolution is given below : 1

   Chemical Substances in sea water ⟶ Life

   Identify the theory.

P.T.O.

Score

6. Which of the following enzyme is called Genetic Scissors ? 1
   - Thromboplastin
   - Lysozyme
   - Restriction endonuclease
   - Ligase

7. Name the plant hormone which controls the ripening of leaves and fruits. 1

8. Which among the following is the **correct** pair related to Malaria ? 1
   - Filarial worm - Culex mosquito
   - Filarial worm - Anophelus mosquito
   - Plasmodium - Anophelus mosquito
   - Plasmodium - Culex mosquito

9. Name the protein present in the epidermis of skin that prevents the entry of germs. 1

10. Which among the following is a protein that made through genetic engineering and is used for the treatment of viral disease. 1
    - Interferons
    - Insulin
    - Endorphin
    - Somatotropin

(2 score for each questions from 11 to 22)

11. Symptoms of a disease are given below :
    - Loss of memory
    - Inability to recognize friends and relatives

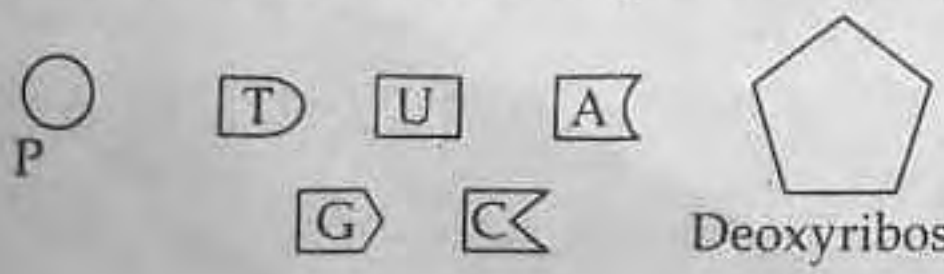
    (a) Identify the disease. 1
    (b) What is the cause of this disease ? 1

12. Observe the figure and answer the questions.

A B

    (a) Identify the cells A and B. 1
    (b) Name the visual pigment present in each of them. 1

13. Draw a nucleotide seen only in DNA using the components given below : 2



Score

14. Read the newspaper report and answer the questions.

> The killer was identified by Scientific testing of the blood stain obtained from the crime scene.

(a) Which is the scientific test mentioned in this news ? 1
(b) What is the scientific basis of this technology ? 1

15. Rearrange the columns B and C according to the information in column A. 2

A. Disease	B. Cause	C. Symptoms
Night blindness	Eye lens becomes opaque	Cannot distinguish green and red colours
Colour blindness	Deficiency of Vitamin A	Increase in the pressure inside the eye
	Defect of cone cells	Cannot see clearly in dim light

16. 'Vaccines develop immunity against specific diseases'. Do you agree with this statement ? Give reason. 2

17. Observe the figure and answer the questions.

(a) Identify the parts denoted as A and B. 1
(b) Name the hormones produced by A. 1

18. The main concepts of a theory of evolution are given below. Analyse them and answer the questions.

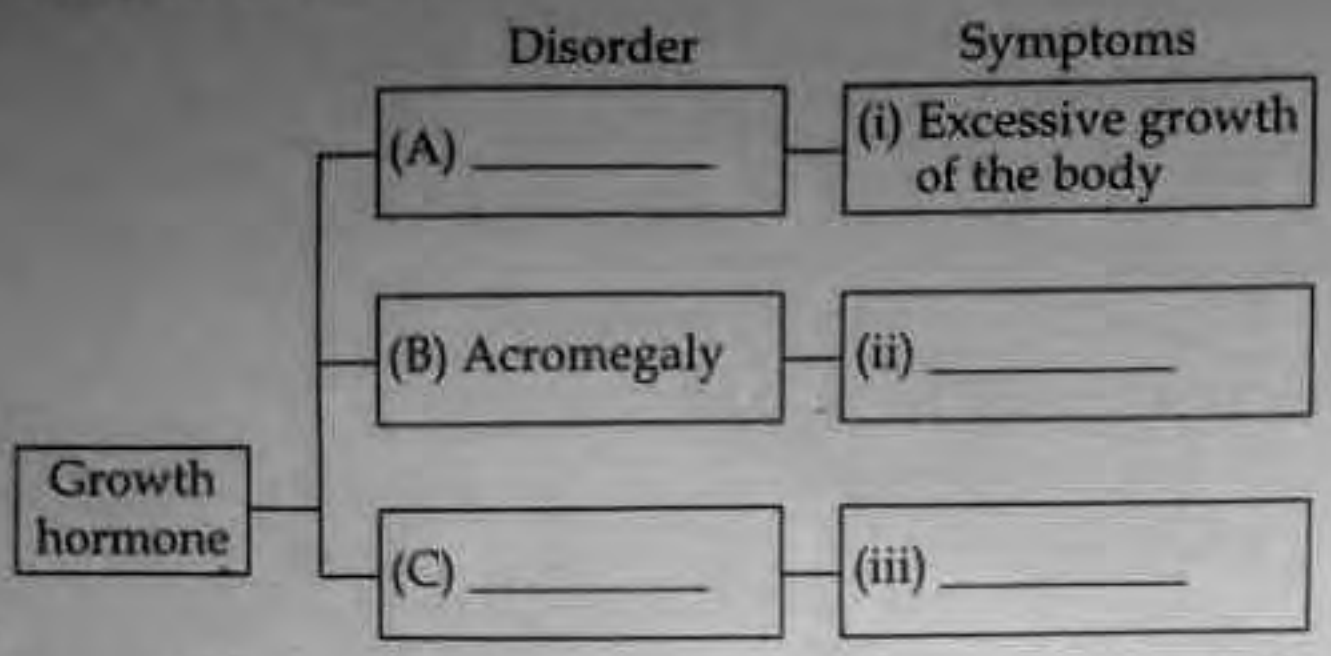
- Over production
- Natural selection
- Struggle for existence
- Origin of new species

(a) Which theory is mentioned here ? 1
(b) Who proposed this theory ? 1

P.T.O.

Score 2

19. Complete the illustration.



20. Some body activities are given below. Arrange them suitably in the given table. 2

- Heart beat increases.
- Trachea contracts.
- Production of saliva increases.
- Peristalsis slows down.

Sympathetic system	Parasympathetic system
•	•
•	•

21. Read the statement and answer the questions.

'One person requires blood for a major surgery. Antigen A and Antigen B are identified in his blood'.

(a) Which is the blood group of that person ? 1

(b) Everyone cannot receive blood from all blood groups. Why ? 1

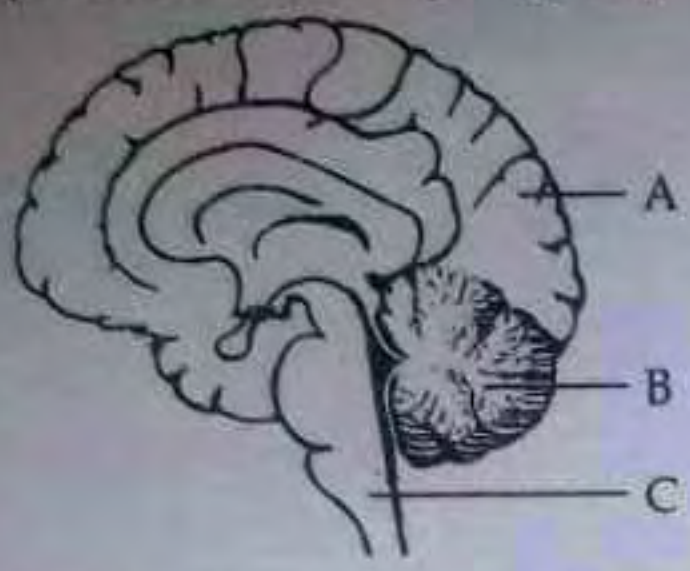
22. Complete the table showing the determination of sex in human beings. 2
(Hint : X and Y are sex chromosomes)

	X	X
X	(a) XX (i) _____	(b) _____ (ii) Female
Y	(c) _____ (iii) Male	(d) XY (iv) _____

Score

(3 score for each questions from 23 to 32)

23. Observe the figure. Identify and write the functions of the parts labelled as A, B and C. (No need of drawing diagram) 3



24. Analyse the hint given in the box and answer the questions.

> It is caused by the uncontrolled division of cells and their spread to other tissues.

(a) Which disease is mentioned here ? 1
(b) What are the causes of this disease ? 1
(c) Early diagnosis is crucial in the treatment of this disease. Why ? 1

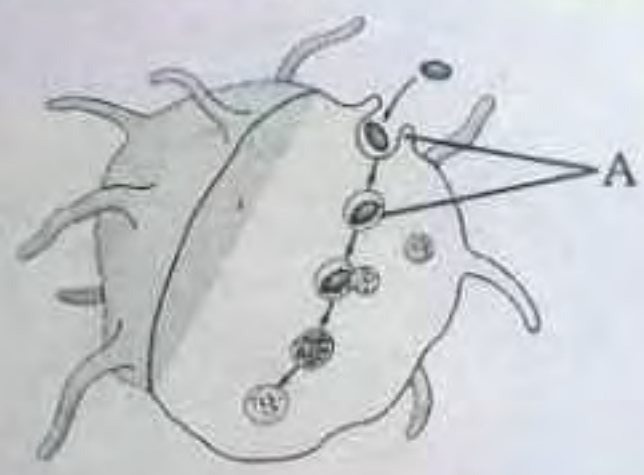
25. Rearrange the stages of sensing the smell as flow chart. 3

- Stimulate the olfactory receptors.
- Impulses reach the brain through the olfactory nerve.
- Aromatic particles enter the nostrils through inhaled air.
- Generate impulses.
- We experience smell.
- These aromatic particles dissolve in the mucus inside the nostrils.

26. Prepare a list of concepts to be included in a notice to build awareness on AIDS.
Hints :

- Spread (Any 2 Situations) 2
- Do not spread (Any 1 Situation) 1

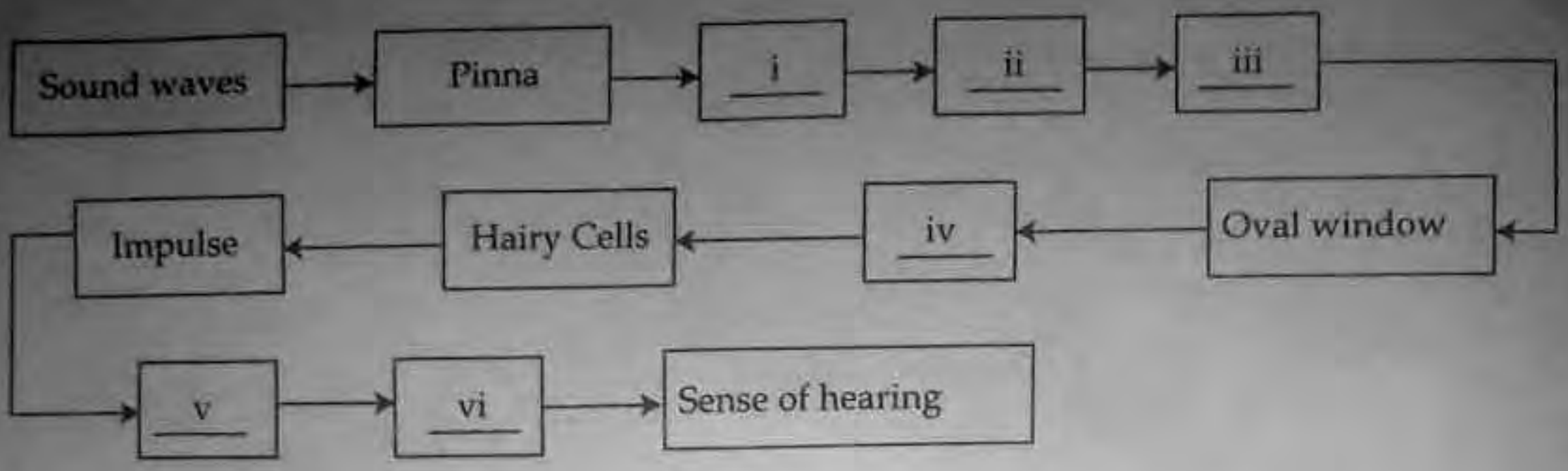
27. Observe the figure and answer the questions.



(a) Identify the process. 1
(b) Which are the white blood cells responsible for this process ? 1
(c) Identify the stage indicated as A in this figure. 1

Score
3

28. Complete the flow chart related to the sense of hearing.



29. Read the statement and answer the questions.
'Antibiotics are effective medicines. Even though their regular use creates many side effects.'

(a) Are antibiotics effective against all communicable diseases ? Why ? 1

(b) Mention any two side effects of antibiotics. 2

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

Gland X	⟶ Hormone A	⟶ Reduces the level of Calcium in blood.
Gland Y	⟶ Hormone B	⟶ Increases the level of Calcium in blood.

(a) What is the normal level of calcium in blood ? 1

(b) Which are the hormones indicated as A and B ? 1

(c) How does the hormone A reduce the level of calcium in blood ? 1

31. Make suitable pairs as shown in the model using the information given in box A and B. 3
Model : Australopithecus afarensis - slender body

A	Ardipithecus ramidus, Homo erectus, Homo habilis, Australopithecus afarensis

B	Contemporary to modern man, slender body Most primitive member of the human race, Ability to stand erect, made weapons from stones and bone pieces

Score

32. Observe the illustration and answer the questions.

(a) Identify this process. 1

(b) Name A and B. 1

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

(4 score for each questions from 33 to 36)

33. Redraw the diagram of neuron. Name and label the parts performing the following functions.

(Redrawing the diagram) 1

(a) Receive impulses from adjacent neuron. 1

(b) Carries impulses away from the cell body to outside. 1

(c) Secretes neurotransmitter. 1

34. Table showing the blood glucose level of four persons is given below. Analyse and answer the questions.

Person	Glucose level (mg/100 mL)
A	108
B	210
C	52
D	74

70 - 110 mg

(a) Identify the persons having normal glucose level. 1

(b) Which person is diabetic ? 1

(c) What is the cause of diabetes ? 1

(d) What are the main symptoms of diabetes ? 1

Score

35. Hints of two diseases are given below. Analyse them and answer the questions.

A	Bacterial disease, loss of body weight, fatigue, persistent cough

B	Genetic disease, excess blood is lost even through minor wounds.

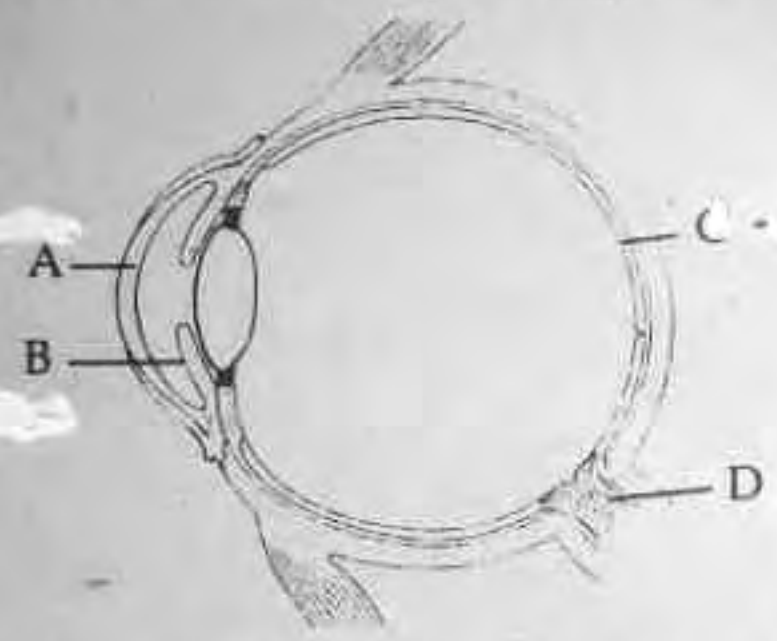
(a) Identify the diseases A and B. 1

(b) In the case of disease B, how can a temporary relief be brought in ? 1

(c) Name the bacteria that causes disease A. 1

(d) How does the disease A get transmitted from person to person ? 1

36. Observe the diagram and answer the questions.
(No need of drawing the diagram)



(a) Identify and name the parts A, B, C and D. 2

(b) Write the functions of A and D. 2

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