

## SSLC EXAMINATION, MARCH - 2023

## BIOLOGY

(English)

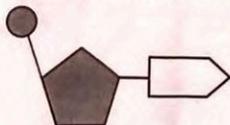
Time : 1½ Hours

Total Score : 40

**Instructions :**

- The first 15 minutes is cool-off time.
- You may use the time to read the questions and plan your answers.
- Answer only on the basis of instructions and questions given.
- Consider score and time while answering.

	Score
<b>Answer any 5 questions from Q. No. 1 to 6. Each carries 1 score.</b>	<b>5x1 = 5</b>
1. Identify the word pair relation and fill in the blank. Planaria : Eye spot House fly : _____	1
2. Choose the correct pair from the following options. ENT - Treatment of Eye Cardiology - Treatment of Heart Ophthalmology - Treatment of Cancer	1
3. Correct mistake if any in the underlined part of the given statements. (a) <u>Gibberellin</u> stimulates break down of stored food to facilitate germination. (b) <u>Ethylene</u> promotes the growth of terminal buds. (c) <u>Cytokinin</u> maintains the dormancy of embryo.	1
4. The genetic make up of human female is 44 + XX and that of male is 44 + XY. What do the XX and XY indicate ?	1
5. Find out the odd one and write the common feature of others. Chimpanzee, Gorilla, Monkey, Oranguttan.	1
6. What does the illustration indicate ?	1

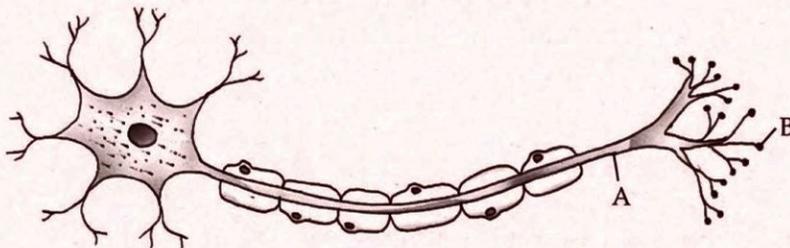


Answer any 6 questions from Q. No. 7 to 13. Each carries 2 scores.

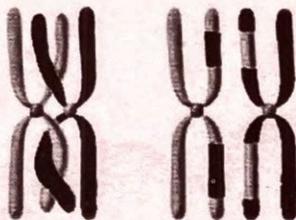
Score  
6x2 = 12

7. Write the name and functions of A and B in the given figure.

2



8. Analyse the given illustration and answer the questions.



- (a) Which process does this illustration indicate ?
- (b) How does this process cause variation ?
9. Symptoms of a viral disease are given. Analyse them and answer the questions.

1

1

- ◆ Inflammation of the liver.
- ◆ White portions of the eyes and nails become yellow coloured.

1

1

10. The details of blood groups of two persons are given in the table. Analyse them and answer the questions.

Person	Antigen	Antibody	Rh factor
X	B	a	Present
Y	A	b	Absent

- (a) Identify the blood groups of persons X and Y.
- (b) Can Y receive blood from X ? Why ?

1

1

11. Choose suitable hints from the box and complete the table.

• Culex mosquito	• Bat	• Anopheles mosquito
• Plasmodium	• Filarial worm	• Virus
• Bacteria	• Rat	

Disease	Vector	Pathogen
Malaria		
Filariasis		

12. Analyse the given statements and answer the questions.

- (i) Sudden withdrawal of the hand while touching on a hot object unknowingly.  
 (ii) Blinking of eyes when light suddenly falls on them.  
 (a) Name the reflex actions that take place in (i) and (ii).  
 (b) What is reflex action ?

1  
1

13. The main concept on Origin of life is given below. Analyse it and answer the questions.

Life originated in some other planet in the universe and accidentally reached the earth.

- (a) Which theory is mentioned here ?  
 (b) Which evidence supports this ?

1  
1

Answer any 5 questions from Q. No. 14 to 20. Each carries 3 scores.

5x3 = 15

14. Arrange columns B and C according to column A.

3

A. Parts	B. Peculiarity	C. Function
Cerebrum	Rod shaped part	Maintenance of homeostasis
Cerebellum	Situated just below the thalamus	Controls involuntary actions like heart beat, breathing etc.
Medulla Oblongata	The second largest part of the brain	Evokes sensations
	The largest part of the brain	Maintains equilibrium of the body

15. Hints related to a disease are given. Analyse them and answer the questions.

- ◆ It is a genetic disease.  
 ◆ Excess blood is lost even through minor wounds.

- (a) Identify the disease.  
 (b) Why excess blood is lost even through minor wounds in such patients ?  
 (c) How temporary relief is brought in, for such patients ?

1  
1  
1

16. Table showing the blood glucose level of three persons before breakfast is given below. Analyse it and answer the questions.

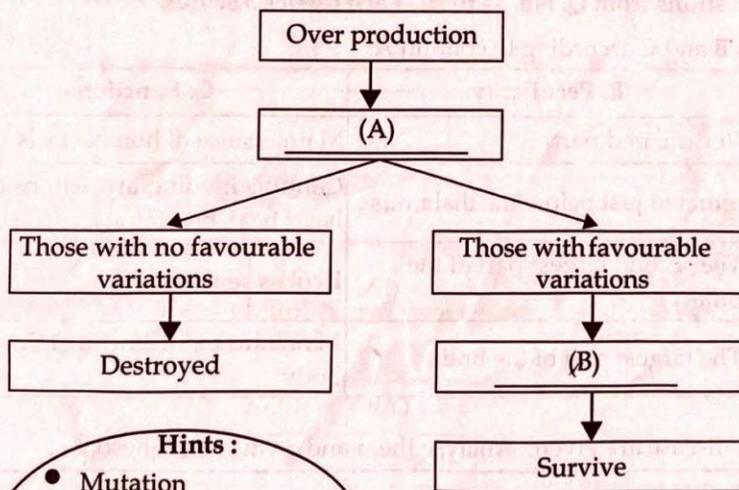
Individual	Blood glucose level
A	82 mg/100 ml
B	178 mg/100 ml
C	104 mg/100 ml

- (a) Which person is Diabetic ?  
 (b) What is the cause of this disease ?  
 (c) What are the symptoms of this disease ?

17. Stages in the process of protein synthesis are given below. Arrange them in sequential order.

- ◆ Protein is synthesized.
- ◆ mRNA reaches ribosome.
- ◆ mRNA reaches outside the nucleus.
- ◆ Amino acids are added based on the information in mRNA.
- ◆ tRNA brings different kinds of amino acids to ribosome.
- ◆ mRNA forms from DNA.

18. The flow chart and hints related to a theory of evolution are given below. Analyse them and answer the questions.



**Hints :**

- Mutation
- Natural selection
- Struggle for existence
- Acquired characters

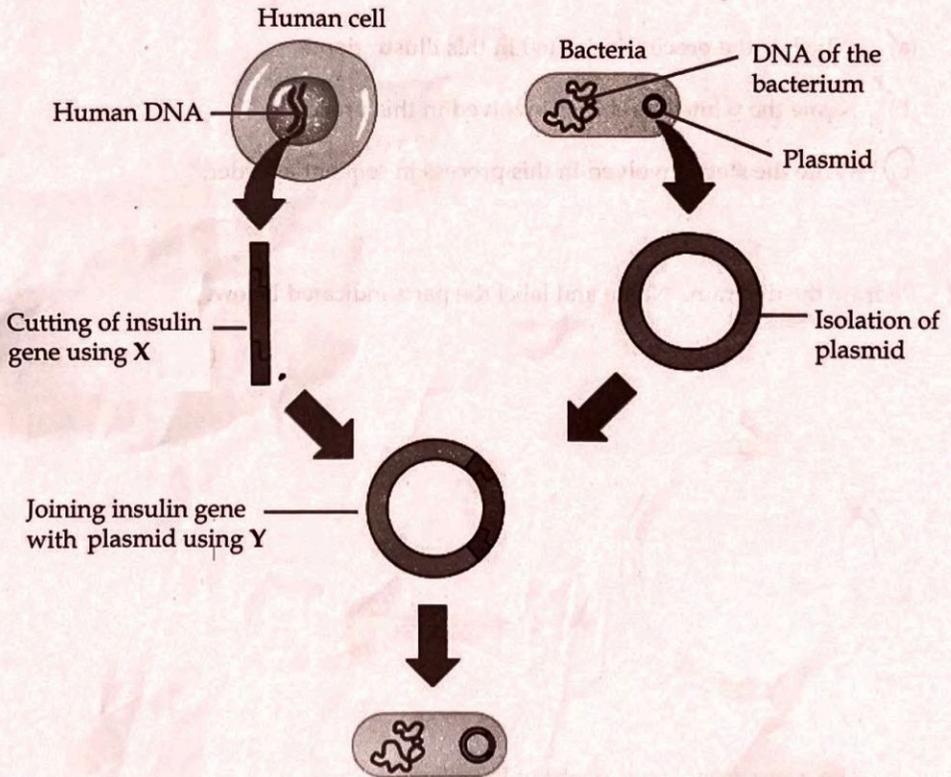
Score

- (a) Choose suitable hints from the box and fill in A and B. 1  
 (b) Which theory is indicated in the flow chart? 1  
 (c) What is the limitation of this theory? 1

19. Give reason for the following.

- (a) There is no vision in the Blind spot. 1  
 (b) Persons with colour blindness are not selected for jobs like that of a driver, pilot etc. 1  
 (c) The deficiency of Vitamin A results in Night blindness. 1

20. Observe the illustration showing the production of insulin through Genetic engineering and answer the questions.

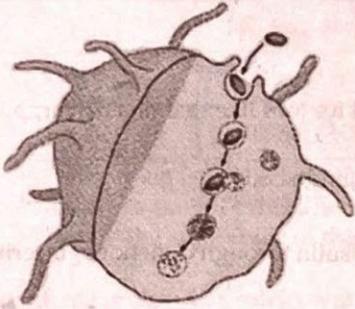


- (a) Name enzymes X, Y. 1  
 (b) What is the role of plasmid in this process? 1  
 (c) Does the succeeding generations of bacteria produced in this way have the ability to produce insulin? Why? 1

Answer any 2 questions from Q. No. 21 to 23. Each carries 4 score.

Score  
2x4 = 8

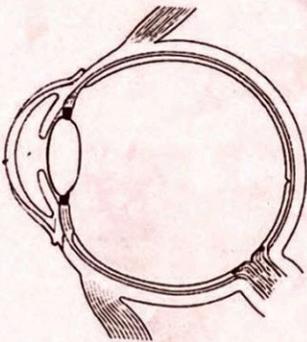
21. Observe the illustration and answer the questions.



- (a) Which is the process indicated in this illustration ? 1
- (b) Name the white blood cells involved in this process. 1
- (c) Write the steps involved in this process in sequential order. 2

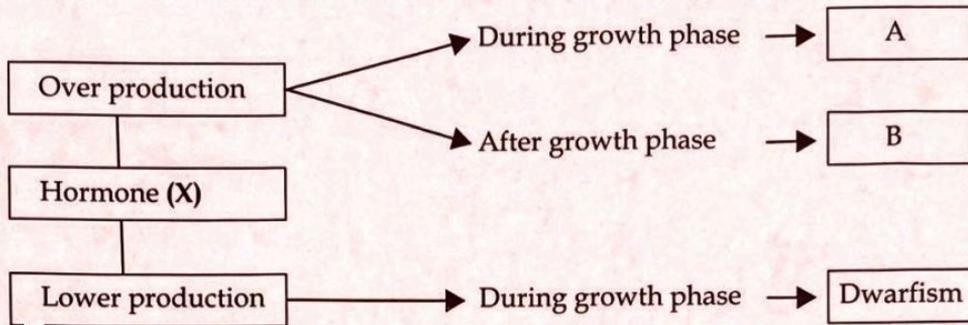
22. Redraw the diagram. Name and label the parts indicated below. 4

(For drawing 1 score)



- (a) The transparent anterior part of the sclera. 1
- (b) The point of maximum visual clarity. 1
- (c) Transmits impulses to visual centre of the brain. 1

23. Analyse the illustration of hormonal disorders and answer the questions.



- (a) Name the hormone indicated as X.  
 (b) Identify the disorders A and B.  
 (c) What are the symptoms of A and B?

1  
1  
2

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