

Sl. No.

SSLC MODEL EXAMINATION, FEBRUARY - 2019

BIOLOGY

(English)

Time : 1½ Hours

Total Score : 40

Instructions :

- The first 15 minutes is the 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

Answer any five questions from question number 1 to 6. Each carries one score.

5x1=5

1. Identify the disease caused by the pathogen which multiplies by taking control over the genetic mechanism of host cells.

Anthrax, SARS, AIDS, Tetanus

2. Select the activity which regulates the size of the pupil according to the intensity of light.

- (a) The action of ciliary muscles.
 (b) The contraction of ligaments.
 (c) The contraction and relaxation of iris muscles.
 (d) The changes in the curvature of lens.

3. From the following pairs, select the one that comes under the peripheral nervous system.

- (a)

Brain

 —

Cranial nerves

- (b)

Cranial nerves

 —

Spinal nerves

- (c)

Brain

 —

Spinal cord

- (d)

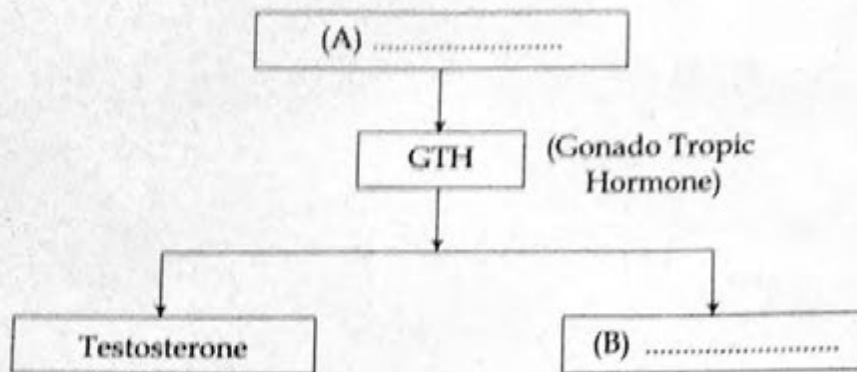
Spinal cord

 —

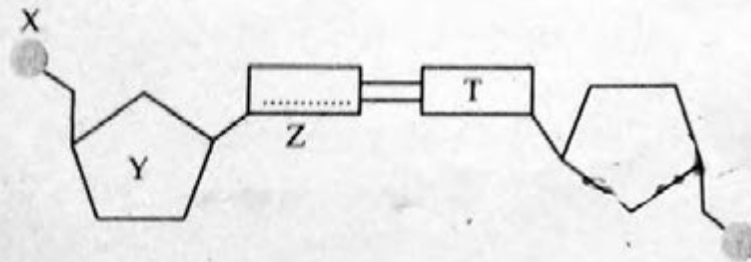
Mixed nerves

P.T.O.

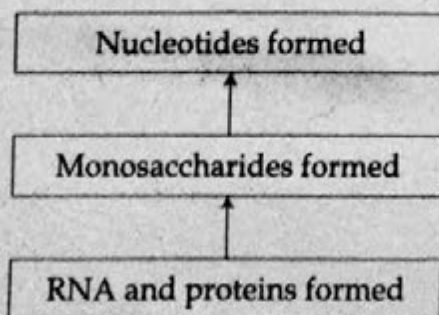
4. Analyse the following illustration and identify the hormones indicated as 'A' and 'B'.



5. Analyse the illustration of DNA nucleotides and select the correctly labelled one.

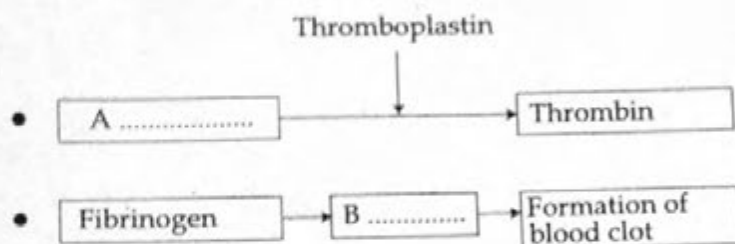


- (a) X-Phosphate, Y-ribose sugar, Z-adenine
 (b) X-Phosphate, Y-deoxyribose sugar, Z-guanine
 (c) X-Phosphate, Y-ribose sugar, Z-thymine
 (d) X-Phosphate, Y-deoxyribose sugar, Z-adenine
6. Analyse the activities in the evolution of life and modify the flow chart by arranging them in the correct order.



Answer any six questions from question number 7 to 13. Each carries 2 score.

7. Analyse the illustrations related to the process of blood clotting and answer the following questions.



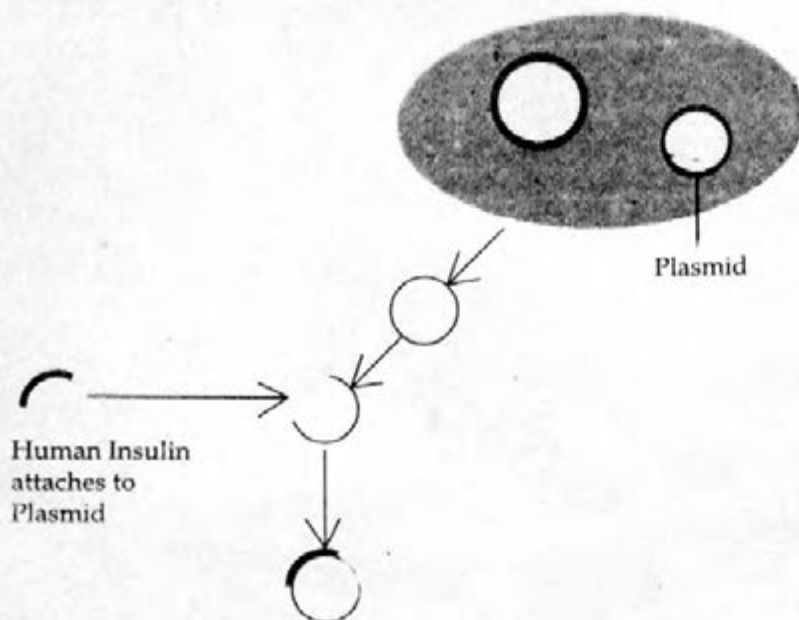
- (a) Identify A and B.
 (b) How does thromboplastin form
 (c) How does the molecule labelled 'B' helps in the formation of a blood clot ?
8. Analyse the following symptoms and identify the disease and pathogen in each.
- (a) Round, red blisters on skin, spreads through contact.
 (b) Obstructs lymph flow and swells lymph ducts, spreads through mosquitoes.
9. Select suitable words from the box given below and complete the following table.

Myelin, central canal, brain ventricles,
 regulation of the speed and direction of
 impulses, electric insulator, synapse.

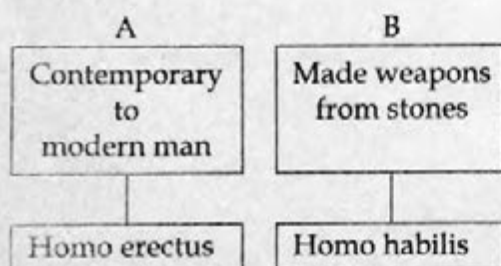
Part		Function	
•		•	
•		•	

10. "White blood cells have a role in an increase in body temperature."
 (a) Do you agree with this statement ? Give reason.
 (b) How does the rise in body temperature advantageous at certain occasions ?

11. Examine the following steps in genetic engineering to produce insulin producing bacteria and answer the following questions.



- (a) Mention the function of the enzyme Ligase in this process.
 (b) Write the subsequent steps in this process.
12. Analyse the names and characteristics of the organisms in human evolutionary history and answer the questions.



- (a) Correct mistakes if any in the names of organisms in A and B.
 (b) Mention the major change that helped modern man to survive.
 (c) Do human beings become a threat to the survival of other organisms? Substantiate your answer by giving suitable evidences.
13. "Genetic diseases can be controlled by removing disease causing genes and inserting desired genes."
- (a) Name the technique that makes this possible.
 (b) Give the role of Human Genome Project in the growth of such techniques.

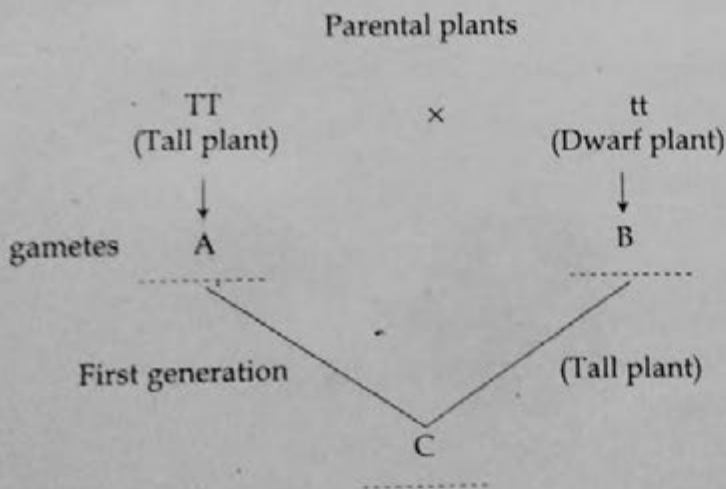
Answer any five questions from question number 14 to 20. Each carries three score.

14. Analyse the illustration of internal ear and answer the questions.



- Write name and functions only of the body balancing parts from among A, B, C and D.
- Write the functions performed by the other parts.

15. Analyse the given illustration related to hybridization process and answer the questions.



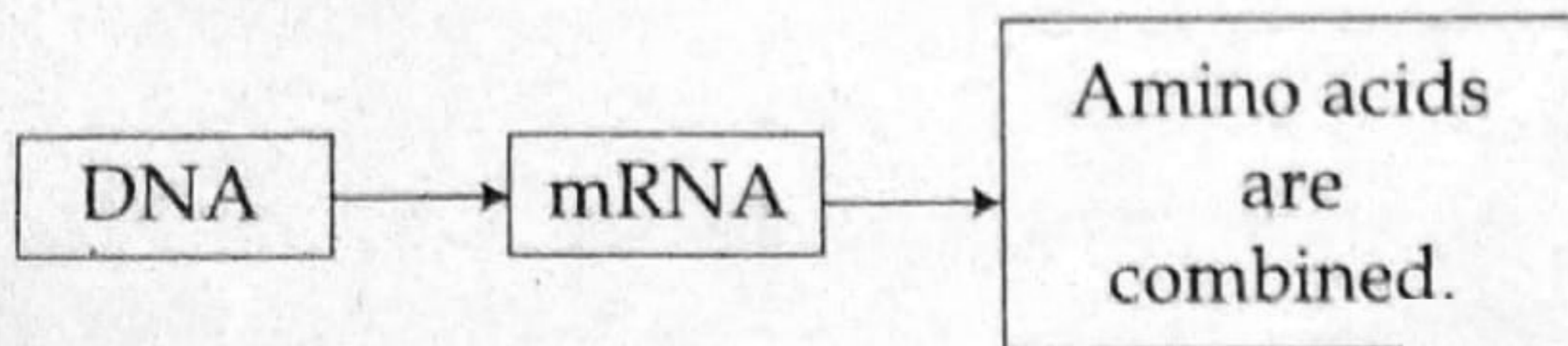
- Identify A, B and C.
- Illustrate the hybridization experiment of a tall, round seeded plant ($TTRR$) with a dwarf, wrinkled seeded plant ($ttrr$) to produce the first generation.

16. Studies in the cell structure and physiology of bacteria and human being recognize the significance of a common ancestor in evolution. Write any three facts to prove this.

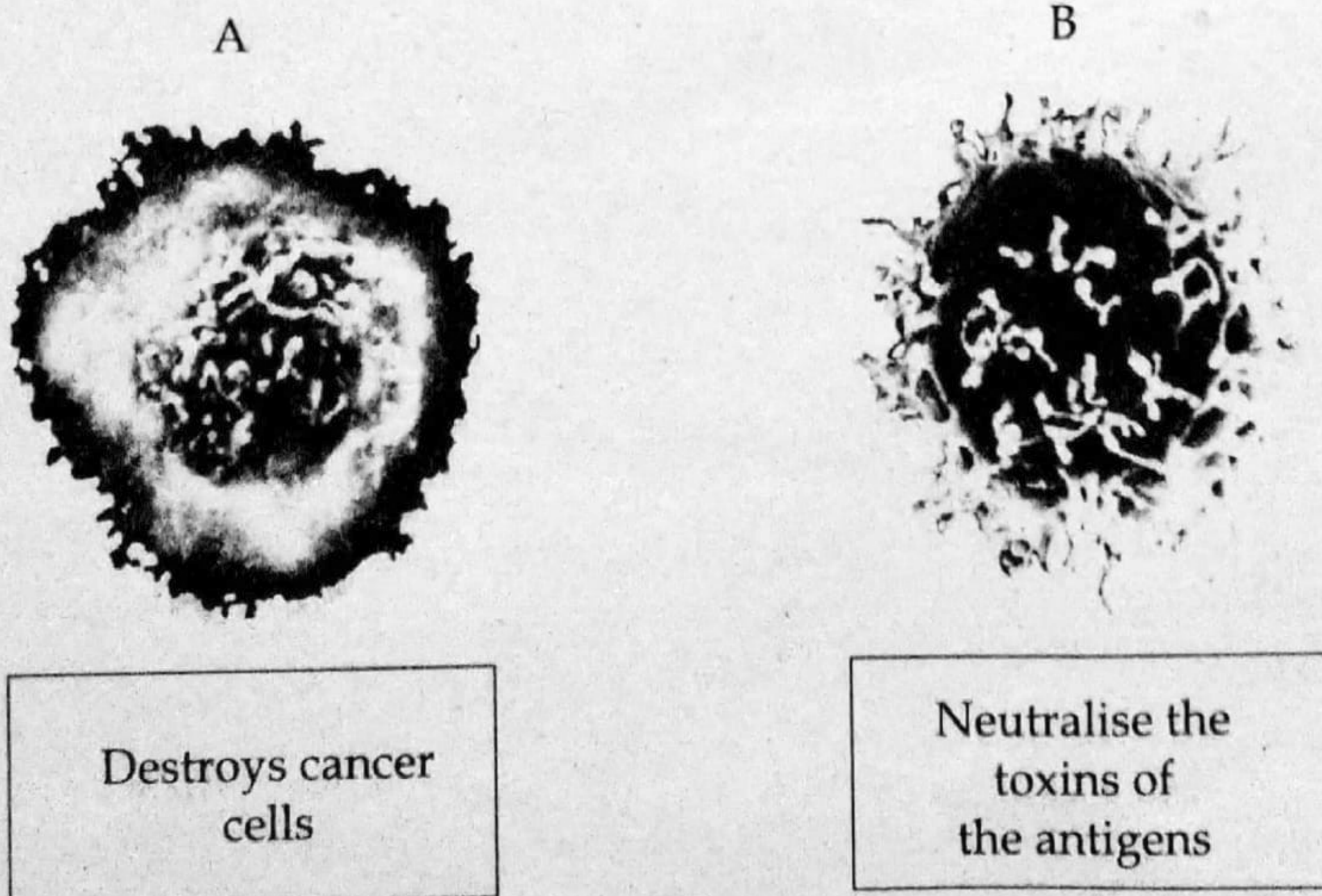
17. Write any three suitable concepts for a poster exhibition in connection with the awareness programme on the topic 'prevention of communicable diseases.'
18. Complete the following table by adding appropriate hormones, diseases and symptoms.

Hormone	Disease	Symptom
Thyroxine	(a)	Thyroid gland enlarges
Vasopressin	(b)	(c)
(d)	(e)	Presence of glucose in urine
(f)	Myxoedema	Low metabolic rate

19. Observe the following illustration and answer the questions.



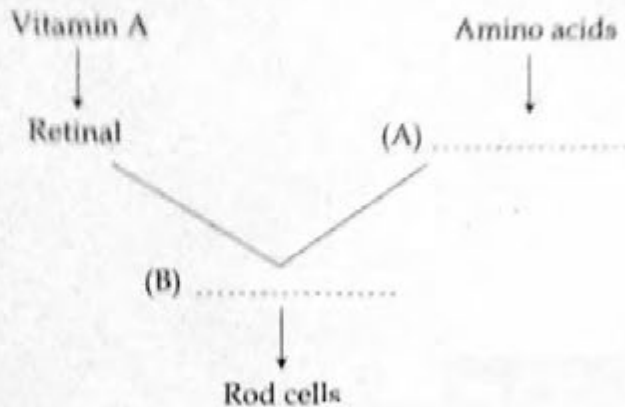
- (a) Identify the process indicated.
- (b) mRNA is considered as the messenger of DNA. Why?
- (c) Write the role of tRNA and ribosome in this process.
20. Observe the pictures of cells in specific defense and answer the following questions.



- (a) Identify cells A and B.
- (b) Write any other activity of A and B to destruct pathogens.
- (c) Give the reason why their activities are known as specific defense.

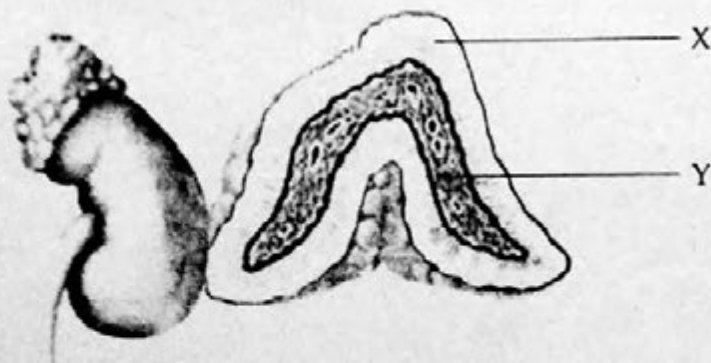
Answer any 2 questions from question number 21 to 23. Each carries 4 score.

21. Analyse the illustration and answer the following questions.



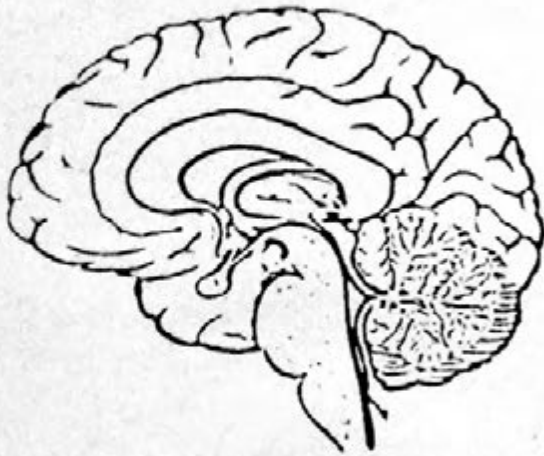
- Identify A and B.
- How does the deficiency of Vitamin A influence the activity of 'B'?
- Explain why the prolonged deficiency of Vitamin A leads ultimately to blindness.

22. Observe the following picture and answer the questions.



- Name the part labelled 'X'.
- Mention any two hormones produced by 'X' and any one function of each.
- How does the part labelled 'Y' prolongs the body activities for more time, when the sympathetic system gets stimulated?

23. Redraw the given picture and label the parts indicated below. Write any one function for each.



- (a) Thalamus
- (b) Medulla oblongata
- (c) Hypothalamus