

**KANNUR DISTRICT PANCHAYATH**  
**DIET KANNUR - SAMAGRA SHIKSHA KERALA, KANNUR**  
**SAMAGRA VIDHYABHYASA PADHATHI**  
**SMILE 2023 - S.S.L.C EXAMINATION – FEBRUARY-2023**  
**BIOLOGY**

[ SET – A ]

Time : 1½ Hr

Score : 40

**General Instructions**

- a. The first 15 minutes is given as cool off time. This time is to be used for reading the question paper
  - b. Attempt the questions according to the instructions
  - c. **Keep in mind the score and time while writing the questions.**
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**Answer any 5 from questions 1 to 6. Each question carries 1 score (1 x 5= 5)**

**Identify the odd one and write the common feature of the others**

1. Auxin, Gibberellin, Prolactin, Cytokinin
2. Diabetes, Stroke, sickle cell anaemia, Fatty liver

**Study the word pair relationship and fill in the blanks**

3. Intelligence : Cerebrum, Homeostasis : .....
4. Emergency hormone : Epinephrine, Youth hormone : .....

**Correct the mistakes if any, in the underlined part of given statements**

5. a) ECG is the instrument used to record electric waves in the heart muscle  
b) B- lymphocytes mature in the thymus gland  
c) Antibiotics are the substances used in artificial immunization  
d) Sphygmomanometer is the instrument used to check blood pressure.

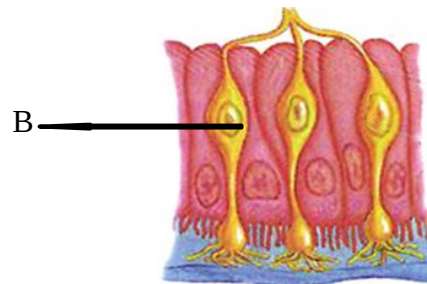
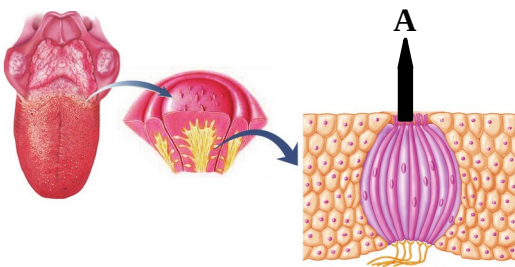
6. Analyse the informations in the box given below and match them according to the given model

Gene therapy, DNA profiling, Treatment of genetic diseases, Junk genes,  
Gene mapping, Non- functional genes, Helps to understand the arrangement of nucleotides

**Model : DNA profiling - Helps to understand the arrangement of nucleotides**

**Answer any 6 from questions 7 to13 ( 2 score each)**

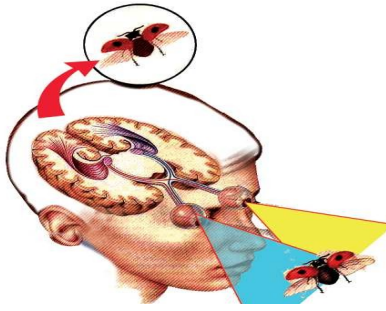
7. Observe the following figures and answer the following questions.



- a) Identify A and B
- b) In which sense organ 'B' is seen ?

(PTO)

8. Observe the figure



- a) Identify this figure
- b) What is the peculiarity of the image formed by this activity ?

9. Make a flow chart related to sense of taste by using the informations given in the box.

Impulses are generated, , stimulate the chemoreceptors, Substances responsible for taste dissolve in saliva, Brain.



10. ‘ When the level of Calcium increases in the blood , excess calcium is stored in bones’

- a) When the level of Calcium in blood increases ....(x).... gland produces .....(y)..... hormone to perform above activity. Fill ‘x’ and ‘y’
- b) Name another hormone produced by the same gland.
- c) What is the normal level of Calcium in blood ?

11. ‘Fever, throat pain and inflammation in the lymph glands of the throat’ are the symptoms of a disease

- a) Identify the disease.
- b) which is the causative organism of this disease ?
- c) How does this disease spread ?

12. Fill in the blanks by writing the name of diseases caused by each type of Microbes in Humans .

**Bacteria**

\* Tuberculosis

\* .....a.....

**Virus**

\* AIDS

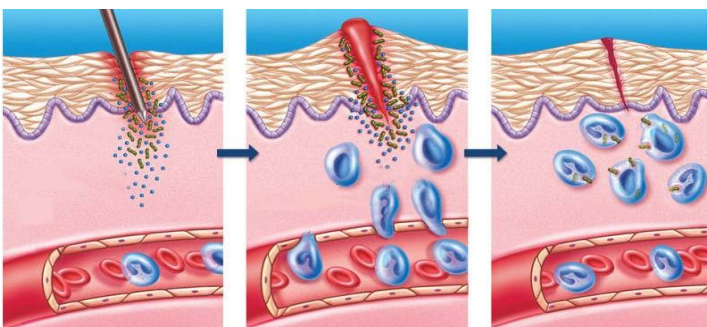
\* .....b.....

**Fungus**

\* .....c.....

\* .....d.....

13. Observe the figure



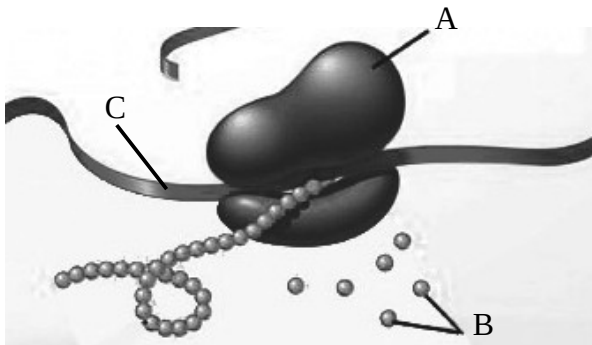
- a) Identify this process.
- b) Write the name Two WBC’s involved in this action

**Answer any 5 from questions 14 to 20 ( 3 score each )**

14. Some statements related to AIDS are given below. Arrange them suitably in the box given
- Through sexual contact with HIV infected person.
  - Through insects like mosquitoes, houseflies etc.
  - From HIV infected mother to the foetus
  - By touch, shaking hands, coughing, sneezing etc.
  - By sharing needle and syringe contaminated with HIV components
  - Through the reception of blood and organs contaminated with HIV

A	B
Chances of spreading disease	Does not spread

15. ‘ Antibiotics are effective medicines but their regular use create many side effects’
- What are antibiotics ?
  - Write any two side effects of them
16. **Observe the illustration and answer the questions.**



- Write the name of the process related to this figure
- Identify and write the name of A, B and C
- Write the function of C

17. Observe the hybridization experiment using two pairs of contrasting traits.

Self pollination in first generation -

TtRr X TtRr

Gametes	TR	Tr	tR	tr
TR	TTRR Tall plant, Round Seed	TTRr Tall with round	TtRR Tall with round	....( p).....
Tr	TTRr Tall with round	....(q).....	TtRr Tall with round	Ttrr Tall with Wrinkled
tR	TtRR Tall with round	TtRr Tall with round	ttRR Dwarf with round	ttRr Dwarf with round
tr	TtRr Tall with round	Ttrr Tall with Wrinkled	....( r).....	....( s).....

- Fill **p,q,r,s** appropriately
- What is the reason for appearance of variations in offsprings ?

( PTO)

18. ‘ Real parent was identified in parental dispute ’

- a) Which technology is used here ?
- b) What is the basis of this technology ?
- c) write any two areas where this technology can be used .

19. A comparison of the situations in the **primitive earth** and **Urey – Miller experiment** is given below.

	Primitive Earth	Urey – Miller Experiment
Reactants	Hydrogen,, Ammonia, Nitrogen, Carbon dioxide, Methane water vapour, .....(p).....	Hydrogen, .....(q)..... , Ammonia , Water vapour
Energy source	Thunder and Lightning Volcanic Eruptions Ultra violet rays	.....(r).....
Products	Amino acids Monosaccharides Nitrogen bases Fatty acids	.....(s).....

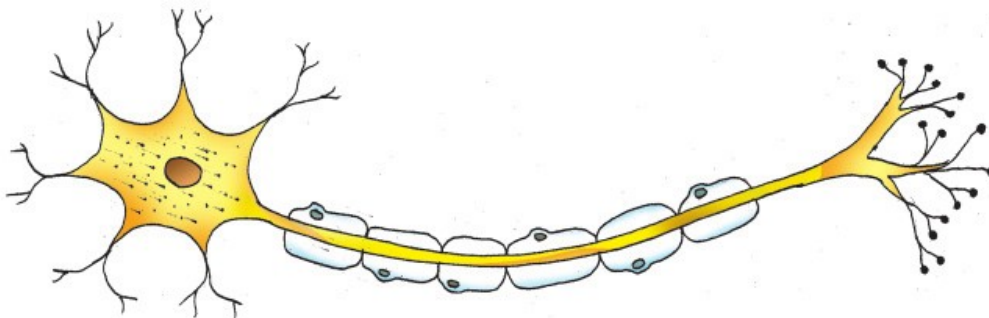
- a) Fill **p,q,r,s**
- b) Which Hypothesis got more acceptance after Urey- Miller experiment.

20. Arrange the stages in the history of human evolution in correct order.

Homo erectus , Homo neanderthalensis, Homo habilis, Homo sapiens  
Australopithecus afarensis, Ardipithecus ramidus

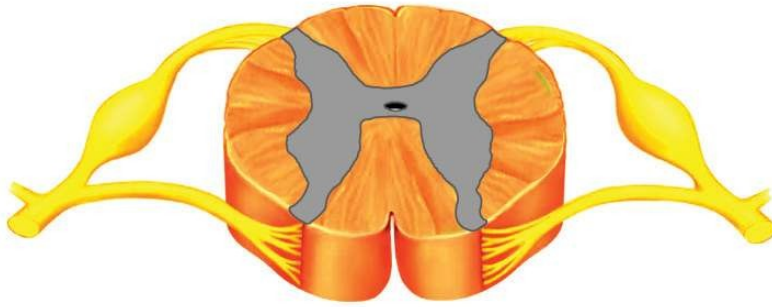
**Answer any 2 questions from questions 21 to 23 ( 4 Score each )**

21. Re-draw the figure and label the parts mentioned as **a,b,c** by writing their name.



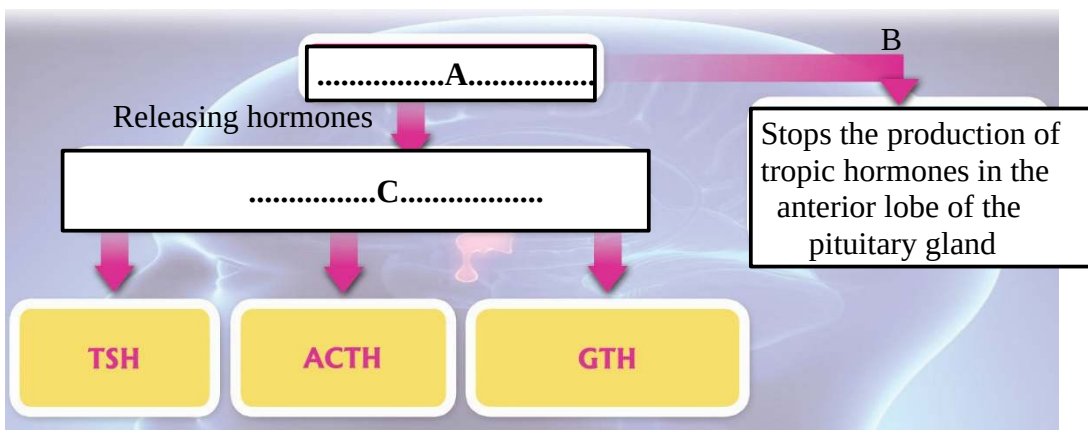
- a) Part that receives impulses from adjacent neuron.
- b) Part where neurotransmitters are secreted.
- c) Part which carries impulses from the cell body to outside.

22. Answer the following questions based on the figure .



- a) How the above given part is protected ?
- b) Name the part through which Sensory impulses reach inside
- c) Name the part through which Motor impulses comes out.
- d) Write total pairs of nerves arising from this part ?

23. Observe the following illustration and answer the following questions.



- a) Name the prime controller Endocrine gland marked as 'A'
- b) Name the hormone marked as 'B'
- c) Name the gland marked as 'C'
- d) Where do the hormones 'TSH' and 'ACTH' act ?

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