

**SET: 1**

**ഊജ്വലം-2021**

**Headmasters Forum TIRUR**  
(SSLC കുട്ടികൾക്കുള്ള സ്വയം വിലയിരുത്തൽ സാമഗ്രി)

**Time: 1 Hr**  
**Score: 20**

**BIOLOGY**

**Instructions:**

- First 10 minutes is for reading questions. This time can be utilized for reading the questions and planning the answers.
- Read the instructions related to each question and answer the questions.
- While writing the answers, consider the time and score.
- For questions 1 to 18, a maximum of 20 score will be awarded.

**Questions from 1 to 5, each question carries 1 score.**

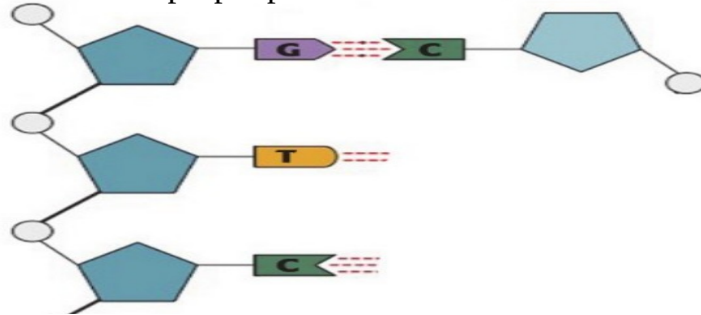
**(1X5=5)**

1. Find out the odd one and write the common character of others  
Nitrogen base, sugar molecule, amino acid molecule, Phosphate molecule
2. Fill in the underlined word with alternative word.  
The technology of testing the arrangement of nucleotides is Gene Therapy.
3. Which of the following body secretions containing lysozyme.  
(ear wax, Urine, Hcl, saliva, mucus in trachea)
4. Identify the phagocytes from the given WBC list.  
neutrophil basophil , eosinophil , monocyte, lymphocyte.
5. Find out the wrong pair from the following:  
Alec jeffrey- DNA Finger printing, Charles Darwin- Natural selection,  
Antibiotic : Edward Jenner, Chemical evolution- A I oparin

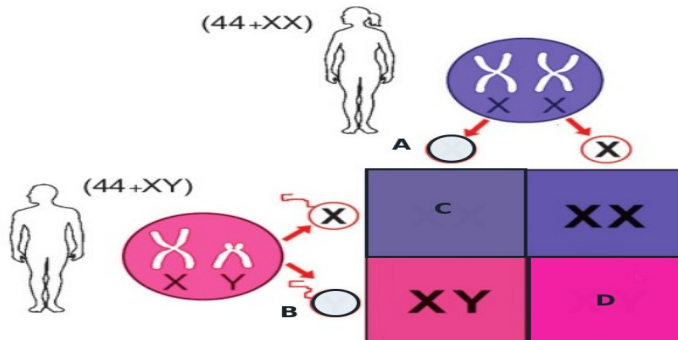
**Questions from 6 to 11, each question carries 2 score.**

**(2X6=12)**

6. Draw the two nucleotide in the proper place with name



7. Complete the A,B,C and D in the figure.



8. (i) Arrange the following stages of a process in right order.  
(ii) Name the process.

Lysosome combines with membrane sac

The pathogens are degenerated and destroyed by the enzymes in lysosome.

Expels the remnants.

9. a) Arrange the following in right order.  
 b) Name the theory of evolution indicated here.

Struggle for existence	Those with favourable variations	Survive	Origin of new species	Over production
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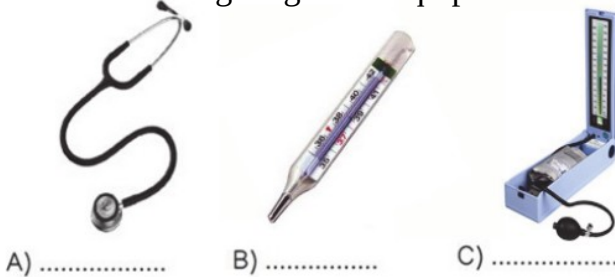
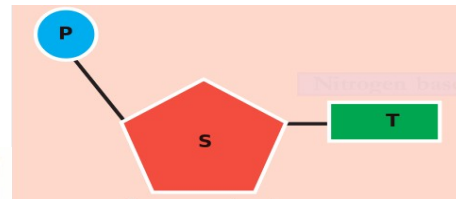
10. Though antibiotics are effective medicines, their regular use creates many side effects. Write two such side effects.

11. Complete the table:

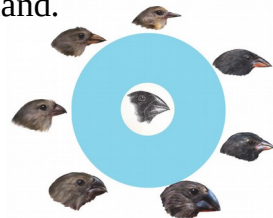
	Number of strands	Type of Sugar	Nitrogen base
DNA	2	A	B
RNA	C	Ribose sugar	D

**Questions from 12 to 16, each question carries 3 score. (3X5=15)**

12. (i) Identify P,S and T in the figure.  
 (ii) Name the illustration showing here.  
 (iii) Name the complementary of the 'T' part.
13. Name the following diagnostic equipments.



14. Make a flowchart by using the steps involved in the action of Gene or Protein synthesis.
15. The image shows the Darwin observed finches in the Galapagos Island.

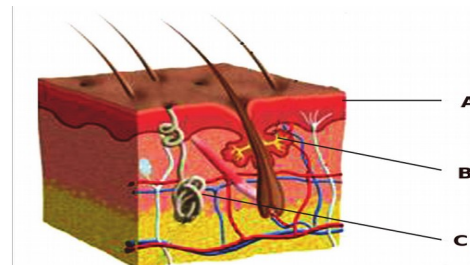


- a) Which peculiarity of the finches attracted Darwin?  
 b) How do these peculiarities help finches in their survival?
16. Vectors are the important tool in Genetic Engineering.
- a) What are vectors  
 b) Give one example  
 c) Give one use of vector with example

**Questions from 17 to 18, each question carries 4 score. (4X2=8)**

17. Make a table that shows the four types of blood groups, containing antigens and the possible antibodies in persons having each group.

18. Observe the figure and  
 a) Name the part  
 b) Name and explain about A, B and C



**SET: 2**

**ഉജ്ജ്വലം - 2021**

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**Questions from 1 to 5, each question carries 1 score. (1X5=5)**

1. Find out the odd one and write the common character of others  
Adenine, cytosine, guanine, thymine, uracil
2. If there is a mistake in the underlined part, change it.  
Group O blood is a blood group where antigen A and antigen B are found.
3. Find the white blood cell that contributes to phagocytosis from the following  
(Eosinophil, lymphocyte, monocyte, basophil)
4. A sudden heritable change in the genetic constitution of an organism is called .....
5. Find out the wrong pair from the following.  
A) Alec Jeffreys - DNA Finger printing      B) Charles Darwin- Natural selection  
C) Edward Jenner - Antibiotic                      D) A I Oparin - Chemical evolution

**Questions from 6 to 11, each question carries 2 score. (2X6=12)**

6. Select only the correct pairs from the list below.  
A) adenine - thymine      B) guanine - thymine      C) cytosine - guanine  
D) adenine - uracil      E) thymine - urasil      F) guanine – cytosine
7. Complete A, B and C in the table and find out the probability of having male and female children.

	X	....A....
X	....B...	XX
Y	XY	....C....

8. Is it advisable to use antibiotics without the recommendation by a doctor ? Why ?
9. a) Arrange the following in right order.  
b) Name the theory of evolution indicated here.

Struggle for existence	Those with favourable variations	Survive	Origin of new species	Over production
------------------------	----------------------------------	---------	-----------------------	-----------------

10. (i) Arrange the following and make a flowchart. (ii) Write the name of the process.  
 Engulfs pathogen in the membrane sac.  
 White blood cell approaches pathogen.  
 Lysosome combines with membrane sac.  
 The pathogens are degenerated and destroyed by the enzymes in lysosome.

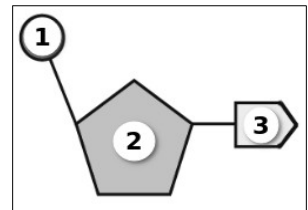
11. Complete the table:

Nucleic acid	Number of strands	Type of Sugar	Nitrogen base
DNA	2	.....A.....	.....B.....
.....C.....	1	Ribose sugar	.....D.....

**Questions from 12 to 16, each question carries 3 score.**

**(3X5=15)**

12. (i) Write the name of the DNA structure unit in the illustration.  
 (ii) Identify 1 and 2.  
 (iii) Find a nitrogen base **pair** that can replace 3.



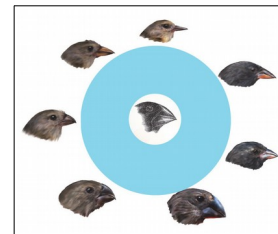
13. Complete the list below.

Organ	Secretions that help to defend pathogens
Urinary tract	.....
Stomach	.....
Trachea	.....

14. Make a flowchart by using the steps involved in the action of Gene (Protein synthesis).

15. The image shows the Darwin observed finches in the Galapagos Island.

- a) Which peculiarity of the finches attracted Darwin?  
 b) How do these peculiarities help finches in their survival?



16. 'Genetic scissors' and 'genetic glues' are important tools in genetic engineering.

- a) What are the differences between 'Genetic scissors' and 'genetic glues' ?  
 b) Write an example for 'genetic scissors'.  
 c) Write an example for genetic glue.

**Questions from 17 to 18, each question carries 4 score.**

**(4X2=8)**

17. Make a table that shows the four types of blood groups, containing antigens and the possible antibodies in persons having each group.

18. Write the various stages of the production of insulin bacteria by genetic engineering.



**SET: 3**

**ഉജ്ജ്വലം - 2021**

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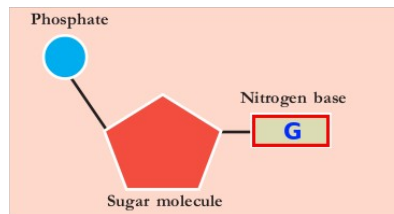
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**Questions from 1 to 5 Each question carries 1 score. (1 X 5 = 5)**

1. Tear contains an enzyme as a part of defence. Name it.
2. Complete the word pair .44+ XX : Female , 44 + -- Male.
3. Sebum produce in ..... glands.
4. Identify the phagocytes from the given WBC list.  
neutrophil basophil , eosinophil , monocyte, lymphocyte.
5. Find the odd one out and give the common feature of others.  
Stanley Miller , Harold Urey , Gregor Mendel , A.I.Oparin ,

**Questions from 6 to 11 , Each question carries 2 score. (2 X 6 = 12)**

6. MMR is a vaccine. M,M ,R stands for which diseases.
7. Which are the substances used for vaccination.
8. Analyse the case history . Identify the disease, symptoms and remedies if any.  
Raju. Age 22. excess bleeding from small wounds.  
Vit. K present , platelets count normal.
9. Ramu has AB negative blood group. Mention the antigens and anitbodies in it.
10. Analyse the given figure. Prepare a complementary nucleotide for this in a DNA molecule.



11. Mention 3 differences between DNA and RNA.

**Questions from 12 to 16 , Each question carries 3 score. (3 X 5 = 15)**

12. Prepare a flow chart of action of genes.
13. The ratio of male and female population is almost same in world. Mention the reason.
14. Mention one genetic glue and one genetic scissors.
15. Mention 3 uses of DNA fingerprinting.
16. Which were the sources of energy during chemical evolution.

**Questions from 17 to 18 , Each question carries 4 score. (4 X 2 = 8)**

17. Fever is a condition when the body temperature rises above the normal level. It is a part of defence mechanism. Prepare a flow chart of occurring fever .
18. A patient with A+ve blood receives B +ve blood. What will happen to the patient . Why?

