

SET: 1

ഉജ്ജ്വലം-2021

Headmasters Forum TIRUR
(SSLC കുട്ടികൾക്കുള്ള സ്വയം വിലയിരുത്തൽ സാമഗ്രി)

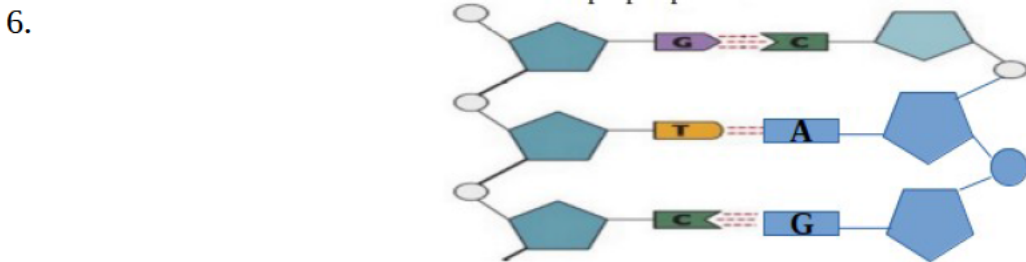
Time: 1 Hr
Score: 20

BIOLOGY (Answer Key)

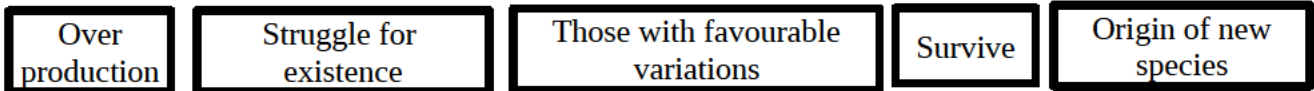
Questions from 1 to 5, each question carries 1 score. (1X5=5)

1. Amino acid molecule, others are part of Nucleotide
2. Genetic Engineering
3. Urine, saliva
4. Neutrophil, Monocyte
5. Antibiotic : Edward Jenner,

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



7. A=X, B=Y, C=XX, D=XY
8. (i) Lysosome combines with membrane sac
The pathogens are degenerated and destroyed by the enzymes in lysosome.
Expels the remnants.
(ii) Phagocytosis
- 9.a)



b) Natural Selection

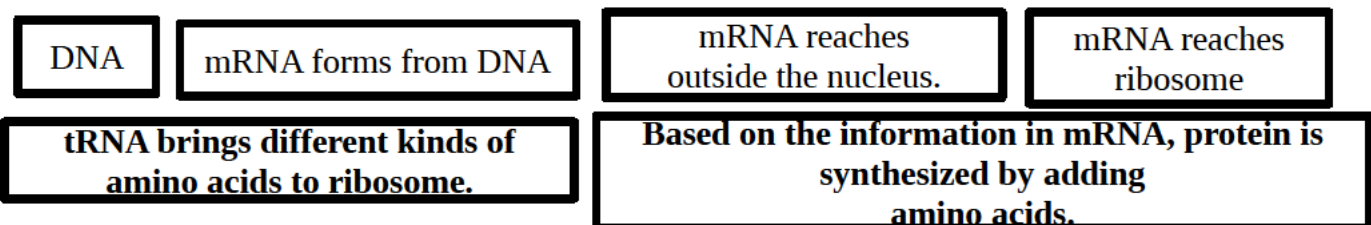
10. (i) regular use develops immunity in pathogens against antibiotics.
(ii) destroys useful bacteria in the body.
(iii) reduces the quantity of some vitamins in the body. [Any Two]

11. Complete the table:

	Number of strands	Type of Sugar	Nitrogen base
DNA	2	Deoxy Ribose	A,T,G,C
RNA	1	Ribose sugar	A,U,C,G

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

12. (i) P= Phosphate molecule, S= Sugar molecule, T= Thyamine
(ii) Nucleotide
(iii) Adenine(A)
13. A= Stethoscope, B= Thermo meter C= Sphigmo manometer
- 14.



15. a) The differences in the beaks of these finches attracted Darwin.
 b) Darwin observed had beaks adapted to their feeding habits
16. a) A gene from one cell is transferred to another cell by using suitable vectors
 b) Plasmid
 c) Production of Insulin by using plasmids

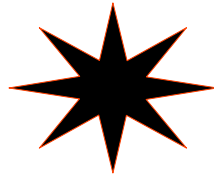
Questions from 17 to 18, each question carries 4 score.

(4X2=8)

17.

Blood group	Antigens	Antibodies
A	A	b
B	B	a
AB	A and B	Nil
O	Nil	a and b

18. a) Skin
 b) A=**Epidermis** : A protein called keratin present here prevents the entry of germs.
 B= **Sebaceous gland** : Sebum produced by the gland makes the skin oily and water proof.
 C= **Sweat gland** : The disinfectants present in the sweat produced by this gland destroys the germs.



SET: 2

ഉള്ളൂലം - 2021

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Time: 1 Hr
Score: 20

BIOLOGY(AnswerKey)

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

(1X5 = 5)

1. Thymine, all others are found in RNA , OR uracil, all others are found in DNA
2. Group AB blood is a blood group where antigen A and antigen B are found.
3. Monocyte
4. Mutation
5. C) Edward Jenner - Antibiotic

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

(2X6 = 12)

6. A) adenine - thymine C) cytosine - guanine
D) adenine - uracil F) guanine - cytosine
7. A) X,
B) XX
C) XY
Probability of male and female – 1: 1 (or Equal probability)
8. Not recommended. Because regular use develops immunity in pathogens against antibiotics, destroys useful bacteria in the body, reduces the quantity of some vitamins in the body. (any two)

9.

Over production	Struggle for existence	Those with favourable variations	Survive	Origin of new species
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10. (i) White blood cell approaches pathogen.
Engulfs pathogen in the membrane sac.
Lysosome combines with membrane sac.
The pathogens are degenerated and destroyed by the enzymes in lysosome.
(ii) Phagocytosis

11. Complete the table:
A) Deoxyribose sugar B) Thymine C) RNA D) Uracil

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

(3X5 = 15)

12. (i) Neocleotide
(ii) 1) Phosphate, 2) Deoxyribose sugar
(iii) adenine – thymine OR cytosine - guanine

13.

Oggan	Secretions that help to defend pathogens
Urinary tract	Lysozyme
Stomach	HCl
Trachea	Mucus

14. mRNA forms from DNA - > mRNA reaches outside the nucleus - > mRNA reaches

ribosome - > tRNA brings different kinds of amino acids to ribosome - > Based on the information in mRNA, protein is synthesized by adding amino acids

15. a) Beaks adapted to their feeding habits
b) The diversity of the beaks of finches reduced their struggle for existence and helped for their survival.
16. a) 'Genetic scissors' are used to cut genes but 'genetic glues' are used to join genes.
b) Restriction endonuclease
c) Ligase

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

(4X2 = 8)

17.

Blood group	Antigens	Antibodies
A	A	b
B	B	a
AB	A and B	Nil
O	O	a and b

18. Cutting of insulin gene > Joining insulin gene with plasmid > Plasmid with ligated insulin gene is inserted in to bacterial cell > Bacteria that multiply in the culture medium produce inactive insulin > Active insulin





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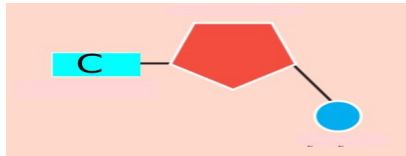
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1. Lysozyme.
2. Complete the word pair .44+ XX : Female , 44 + XY : Male.
3. Sebaceous Gland.
- 4 . phagocytes -- neutrophil , monocyte
5. Gregor Mendel –Others are related with evolution.

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

6. M. Mumps ,M Measles ,R Rubella.
- 7.Substances used for vaccination. The components from alive or dead or neutralised germs, neutralised toxins or cellular parts of the pathogens.
8. Haemophilia . Blood clots with the help of some proteins present in blood plasma. In the absence of these proteins excess blood is lost even through minor wounds. haemophilia is a genetic disease, a complete cure is not possible at present. Temporary relief is brought in by identifying and injecting the deficient protein
9. AB negative blood group. Antigen A and Antigen B. No antibodies.

10.



11. Differences between DNA and RNA.

	DNA	RNA
1	Deoxy ribose sugar present	Ribose sugar present
2	Double stranded	Single stranded
3	Adenine,Thymine, Cytosine, guanine	Adenine,Urasil, Cytosine, guanine

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

12. Prepare a flow chart of action of genes. 1. mRNA forms from DNA. 2. mRNA reaches outside the nucleus.3. mRNA reaches ribosome. 4. RNA brings different kinds of amino acids to ribosome.5. Based on the information in mRNA, protein is synthesized by adding amino acids.
13. The chance of fertilisation of X chromosomal ovum with X chromosomal sperm or Y chromosomal sperm are equal.So the chance of forming male or female are equal.
14. Genetic glue -- ligase, Genetic scissors – Restriction endonuclease.
15. 3 uses of DNA fingerprinting.

DNA finger printing is helpful to find out hereditary characteristics, to identify real parents in cases of parental dispute and to identify persons found after long periods of missing due to natural calamities. To identify the real culprit can be identified from among the suspected persons.

16. The sources of energy during chemical evolution were Thunder and lightning, Ultraviolet radiations, Volcanic eruptions.

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. flow chart of occurring fever .

1. Pathogens enter the body.
2. The presence of toxins produced by the pathogens stimulates the white blood cells.
3. The chemical substances produced by the white blood cells raises the body temperature.
4. The rise in body temperature reduces the rate of multiplication of pathogens. Increases the effect of phagocytosis.

18. A patient with A+ve blood receives B +ve blood. The patient will die. On receiving unmatching blood, the antigen present in the donor's blood and the antibody present in the recipient's blood will react with each other and form a blood clot.

