BY 1201

Second Terminal Evaluation 2017-18

Std. : X **BIOLOGY** **Time : 1½ Hours**
Score : 40

Instructions :

1. First 15 minute is given as cool off time. This time is to be used for reading and understanding the questions.
2. Answer the questions based on instructions.
3. Answer the questions according to the score and time.

Answer any five questions from 1 to 6. Each question carries 1 score. (5 x 1 = 5)

1. Which hormone pair among the following is related to the maintenance of calcium level in blood?
   (a) Parathormone - oxytocin
   (b) Vasopressin - aldosterone
   (c) Calcitonin - cortisol
   (d) Parathormone - calcitonin

2. Read the following statements. Correct the mistakes if any, in the part underlined.
   (a) Filarial worms are the causative organisms of filariasis.
   (b) Fungal diseases are caused by the toxins they produce.
   (c) Typhoid and cholera are spread through air.

3. Which among the following produces chemical substances needed for inflammatory response?
   (a) Lymphocyte (b) Monocyte (c) Eosinophil (d) Neutrophil

4. Select true statements from the following.
   (a) Crossing over takes place in the initial phase of meiosis.
   (b) rRNA carries the aminoacids to ribosomes.
   (c) Uracil nitrogen base is seen in RNA.
   (d) Mutation is not a cause for evolution.
   (i) a & b are correct (ii) b & c are correct
   (iii) a & c are correct (iv) c & d are correct

5. Complete the illustration by using suitable words from the box provided.

Bunchy top, Bacterium, Fungus, Wilt disease

Pathogen	Crop	Disease
A _____ →	Brinjal →	B. _____

47/359/17/BY1201/Std. X -(Eng)-1

6. Select the correct statement related to DNA profiling.
   (a) The technology by which the position of a gene responsible for a particular trait in DNA can be located.
   (b) The technology of testing the arrangement of nucleotides in DNA.
   (c) The technology by which desirable changes are made in genetic make up.
   (d) The technology of replacing disease causing genes by normal functional genes.

Answer any 6 questions from 7 to 13. Each question carries 2 score **(6 x 2 =12)**

7. Analyse the data given in the box and answer the following questions.

• Genetic disorder • Deformities in the sequencing of aminoacids which are the building blocks of haemoglobin • Structural change in haemoglobin

   (a) Identify the disease and write its name.
   (b) How this disease harmfully affects the body ?

8. The following table shows the number of offsprings produced in second generation on self pollinating a pea plant with yellow cotyledons (Yy).

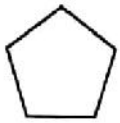
Characteristic	Number
Pea plants with yellow cotyledons	307
Pea plants with green cotyledons	104

   (a) Which is the recessive character in first generation ?
   (b) Illustrate the hybridisation showing the formation of first generation. (Yy)

9. Explain the role of the following in defence mechanism of plants.
   (a) Callose (b) Cuticle

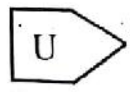
10. From the situations given below, identify those that does not lead to the spread of AIDS.
   (a) By staying together and sharing food.
   (b) By sharing the needles and syringes.
   (c) By touch, shaking hands etc.
   (d) By taking bath in the same pond.
   (e) Through insects like mosquitoes and flies.
   (f) Through body fluids.

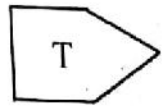
11. Construct a DNA nucleotide by choosing the correct molecules from those given below.



Deoxy ribose sugar

Phosphate





12. Statements related to nonspecific defense mechanism are given. Analyse them and complete the table.

(a) Prevents the entry of pathogens in to the body.

(b) Destroys the pathogens by phagocytosis.

(c) Destroys the pathogens that have entered the body.

(d) Sebum and acids present in the skin destroy the pathogens.

First level defense	Second level defense
•	•
•	•

13. Analyse the following news report and answer the questions.

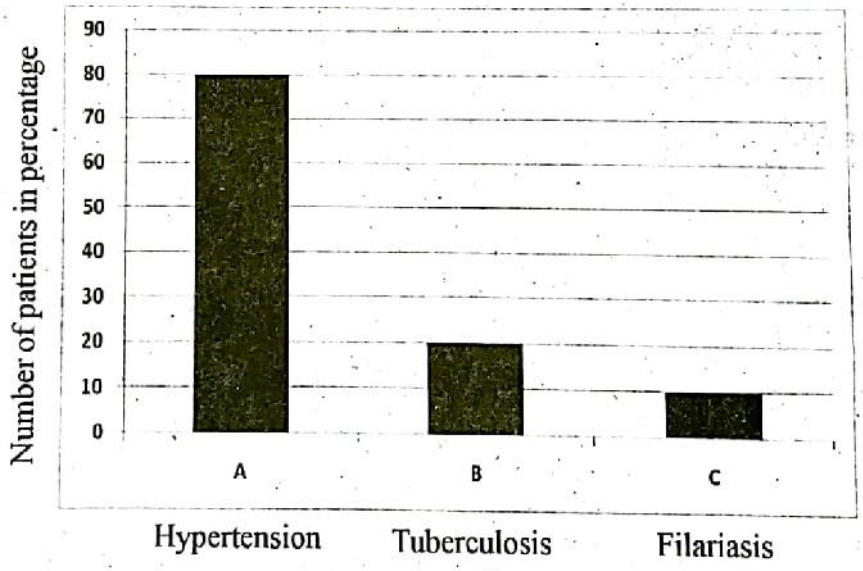
To trap the culprit, police seeks the help of genetic engineering technology

(a) Write the name of the genetic engineering technology mentioned.

(b) How are the culprits identified through this technology?

Answer <u>any five</u> questions from 14 to 20. Each question carries 3 score.(5 x 3 = 15)

14. The following bar diagram shows the results of a health survey conducted in a village. Analyse it and answer the questions.



(a) Which is the disease that affected least number of people?

(b) Suggest any two preventive measures to control the disease condition that affected most of the people.

(c) Name the bacteria that causes the disease 'B'.

15. 'A patient is suffering from blood cancer. He needs A^{ve} blood.'

(a) Can he receive blood from a person who has B^{ve} blood ? Why ?

(b) What is the scientific basis of grouping of blood into positive and negative ?

16. Analyse the case sheet of a patient and answer the questions.

- Headache
- Vomiting
- Anaemia
- Fever with chill
- Over sweating

(a) Identify and name the disease that shows the above symptoms.

(b) Name the causative organism of this disease.

(c) Suggest any two preventive measures for the disease.

17. Analyse the statement and answer the following questions.

"Though antibiotics are effective medicines, their continuous use may cause side effects".

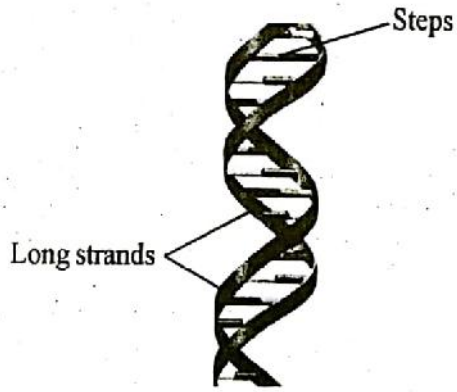
(A) Do you agree with the statement ? Substantiate.

(B) Which among the following diseases can be cured by antibiotics?

(a) Fungal Disease (b) Bacterial Disease

(c) Viral Disease (d) Life style Disease

18. Observe the figure and answer the questions.



(a) Long strands of DNA are made of which molecule ?

(b) Write the Nitrogen base pairs in DNA ?

(c) How many types of Nucleotides are seen in DNA. Why ?

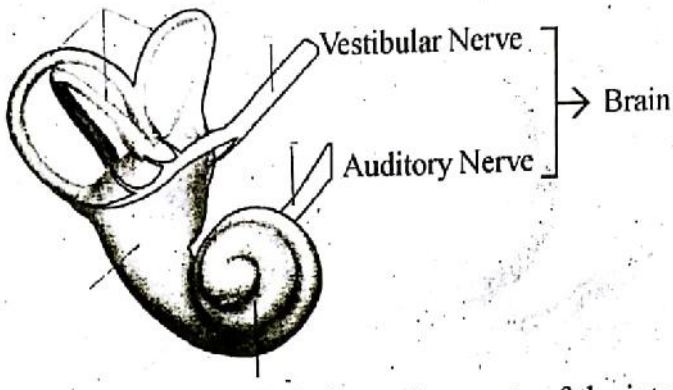
19. Few lines from a Science article are given below. Read them and answer the questions.

> "Genetic Engineering has made great advancement in the treatment of diabetes and hereditary diseases. This is possible....."

(a) Do you agree with this statement ? How is this technology used in the treatment of diabetes?

(b) Which are the other possibilities of this technology ?

20. Observe the illustration related to internal ear and answer the following questions.



(a) Write the collective term that includes various parts of the internal ear that help to keep body balance.

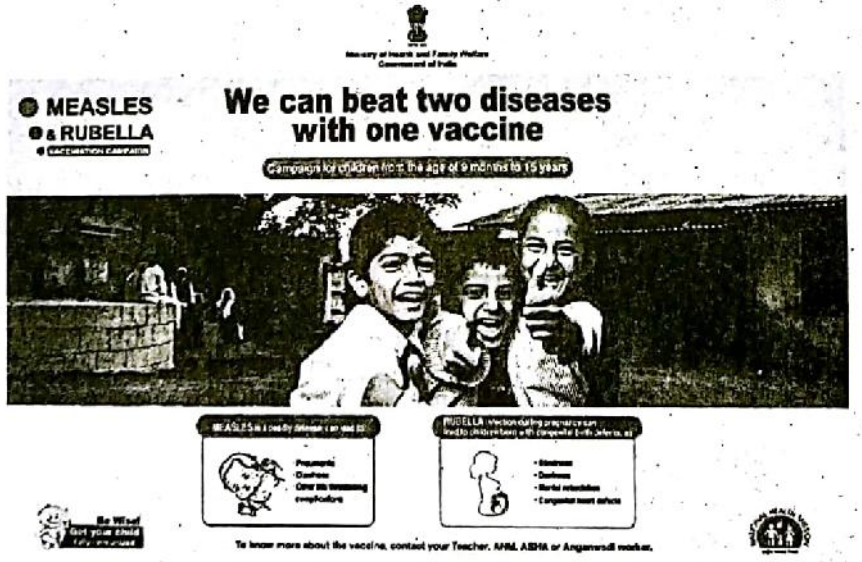
(b) To which part of the brain auditory nerve is connected and what is the function of this nerve ?

(c) To which part of the brain vestibular nerve is connected ? What is the function of that part ?

Answer <u>any two</u> questions from 21 to 23. Each question carries 4 score. (2 x 4 = 8)

21. "Ribosome alone has role in protein synthesis." Do you agree with this statement. Substantiate your opinion on the basis of protein synthesis.

22. Analyse the poster and answer the questions that follow.



47/359/17/BY1201/Std. X (Eng.)-2

(a) What are vaccines ?

(b) Explain how MR vaccine can resist Measles and Rubella ?

(c) Which are the factors that act as antigens in Diphtheria and rabies vaccines ?

23. Analyse the following data based on hybridisation experiment and answer the following questions.

A tall round seeded female pea plant (TTRR) was crossed with a dwarf wrinkled seeded male pea plant (ttrr) to produce first generation. Second generation of pea plants were produced by self pollinating the first generation.

(a) Which is the dominant character in the plants of first generation ?

(b) What will be the genetic makeup of plants in the first generation ?

(c) Which are the new characters that appear in the second generation? Give reason for their appearance ?
