

SAMAGRA SHIKSHA – KERALA

SECOND TERMINAL EVALUATION – 2018

BIOLOGY

CLASS X • SOLVED QUESTION PAPER

Year: 2018

Set: A

Original Question Paper + Answer Section

A**SAMAGRA SHIKSHA - KERALA****E 1006 - BIO****Second Terminal Evaluation 2018-19****BIOLOGY**

Std. : X

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. 1 score each.

(5 x 1 = 5)

1. Choose the correct pair.
 - (a) NAA - i. Increases latex production
 - (b) Auxin - ii. Controls dormancy of embryo in seed
 - (c) Ethyphon - iii. Weedicide
 - (d) Gibberellin - iv. Break up of stored food in seed
2. Correct mistakes if any, in the underlined part.
 - (a) Vitreous humor nourishes the tissues of the eye.
 - (b) Red, green and blue cone cells differ in aminoacids of their opsin molecules.
3. Draw a virus by using suitable indications from the following.



4. If mismatching blood is received blood clots. The reason is.....
 - (a) The antibody of the received blood and the antibody of the recipient's blood will react each other.
 - (b) The antigen of the received blood and the antigen of the recipient's blood will react each other.
 - (c) The antigen of the received blood and antibody of the recipient's blood will react each other.
 - (d) The antibody of the received blood and antigen of the recipient's blood will react each other.

Model Answer / Solution: Q1: NAA—controls dormancy; Auxin—increases latex production; Ethephon—weedicide; Gibberellin—breaks stored food in seed. (Use the marking indicated by the paper)

ANSWERS / SOLUTIONS – PAGE 1

Answer presentation: number each response exactly as in the question paper; use complete steps for 2-, 3-, 4- and 6-mark questions.

5. Select the odd one and write the common features of others.

Lignin, Keratin, Suberin, Cutin

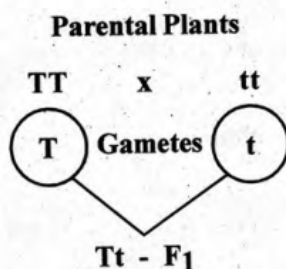
6. Which among the following statements are true ?

- (a) The technology of altering the arrangement of nucleotide is gene mapping.
- (b) Bacterial DNA is used as vectors in genetic engineering.
- (c) The technology used to locate the position of gene is called DNA profiling.
- (d) Medicines are extracted from the blood and milk of pharm animals.

Answer any six questions from 7 to 13. 2 score each.

(6 x 2 = 12)

7. "A synapse is the junction between two neurons only." Do you agree with this opinion ? Why ?
8. Analyse the symptoms and hints given and answer the following questions.
- Loss of body weight, persistent cough, fatigue.
 - Spreads through air.
 - Treat with antibiotic
- (a) Which is the disease ?
- (b) Write the name of the vaccine used against this disease ?
9. In haemophilic patients, blood loss occur even from minor wounds.
- (a) Why do blood not clot in them ?
- (b) Can this disease be completely cured ? Why ?
10. Rearrange the steps involved in induced immunity against typhoid in correct sequence.
- Antibodies are formed.
 - Injects neutralised germs of typhoid into blood.
 - Induced immunity is sustained.
 - Antibodies destroy pathogen.
11. Write the name of any four secretions in our body that act as disinfectants.
12. A cross between a tall plant and a dwarf plant is illustrated below.



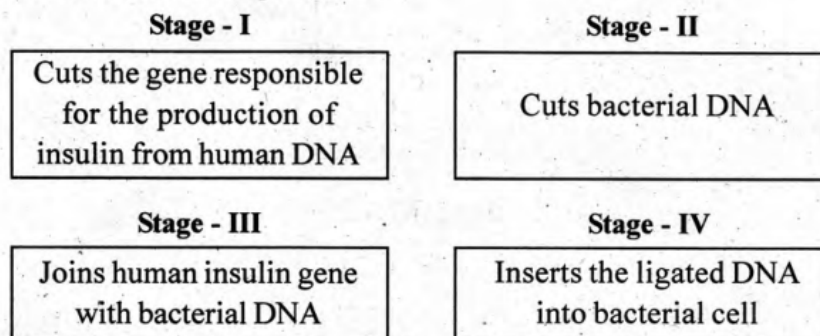
- (a) Which is the dominant trait in F₁ ?
- (b) Illustrate the hybridisation of F₁ with dwarf parent.

Model Answer / Solution: Q2: Vitreous humour does not nourish the eye tissues; opsin molecules of different cone cells differ in their amino-acid composition.

ANSWERS / SOLUTIONS – PAGE 2

Answer presentation: number each response exactly as in the question paper; use complete steps for 2-, 3-, 4- and 6-mark questions.

13. Stages of artificial production of human insulin using bacteria is shown below. Observe and answer the questions.



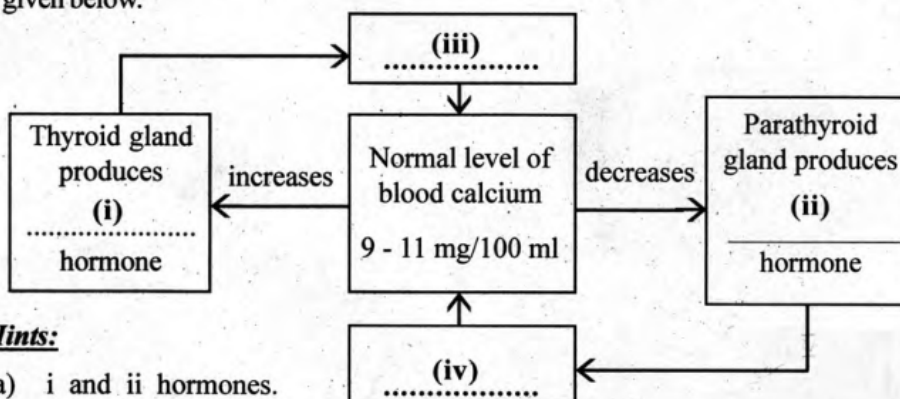
- (a) Name the technology used here to produce insulin.
 (b) Name the enzymes needed for this process ?

Stage - 1 :, Stage - 2 :, Stage - 3 :

Answer any five questions from 14 to 20. 3 scores each.

(5 x 3 = 15)

14. Complete the illustration showing the maintenance of blood calcium as per hints given below.



Hints:

- (a) i and ii hormones.
 (b) iii and iv one action each.
15. Smoking harmfully affects brain, lungs and heart. Mention any two examples each for the health hazards caused to the organs due to smoking.
16. Complete the table.

Equipment	Use
a.	To understand the structure of internal organs using ultrasonic sound waves
b.	To measure blood pressure
EEG	c.
CT scanner	d.
e.	To know the heart beat.
ECG	f.

Model Answer / Solution: Q3: A virus is represented using the protein coat and DNA from the given symbols.

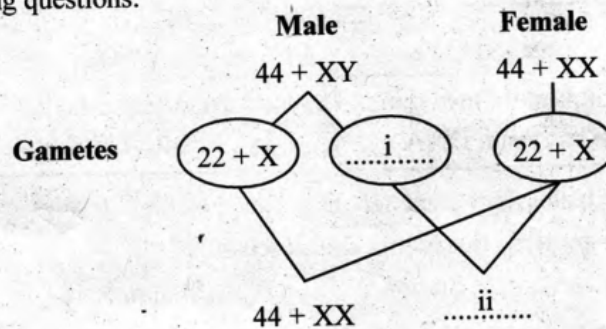
ANSWERS / SOLUTIONS – PAGE 3

Answer presentation: number each response exactly as in the question paper, use complete steps for 2-, 3-, 4- and 6-mark questions.

17. Explain the process of blood clotting by using the given hints.

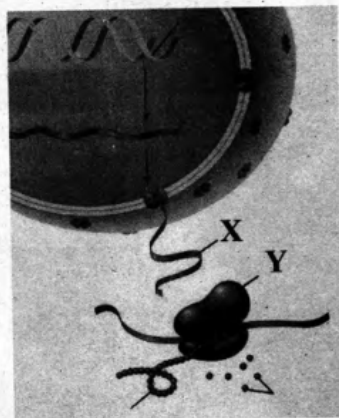
- Prothrombin
- Thrombin
- Thromboplastin
- Fibrinogen
- Fibrin

18. Observe the illustration showing the sex-determination in man and answer the following questions.



- (a) Fill up i and ii suitably.
- (b) Number of male and female is almost equal. What is its reason ?

19. Observe the illustration and answer the questions.



- (a) Which is the process illustrated ?
- (b) What does X and Y indicate ?
- (c) What are the roles of X and Y in the process indicated ?

20. Rearrange the column B and C to suit with column A.

A	B	C
Glaucoma	Eye lens become opaque	Concave lens
Xerophthalmia	Failure in the reabsorption of aqueous humor	Lens replacement
Cataract	Defect of cone cells	Laser treatment
	Cornea become dry and opaque	Vitamin A - rich food

Model Answer / Solution: Q4: In incompatible blood transfusion, antigen of the received blood reacts with antibody of the recipient's blood.

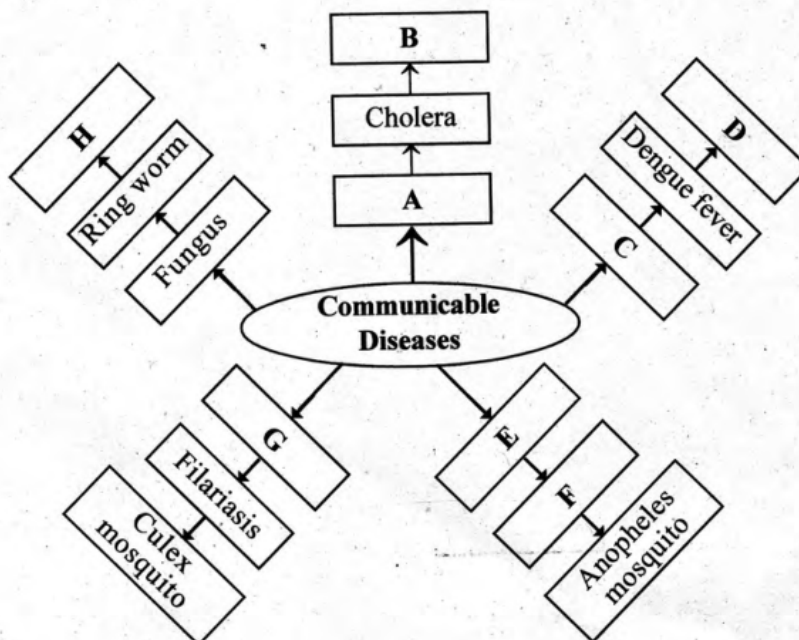
ANSWERS / SOLUTIONS – PAGE 4

Answer presentation: number each response exactly as in the question paper; use complete steps for 2-, 3-, 4- and 6-mark questions.

Answer any two questions from 21 to 23. 4 scores each.

(2 x 4 = 8)

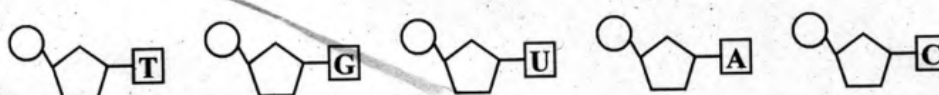
21. Complete the illustration, related to communicable diseases suitably.



22. Based on white blood cells, answer the following questions.

- Which are phagocytes ?
- Which among them stimulate other white blood cells ?
- Which white blood cell produces antibodies ?
- How do antibodies destroy pathogens ?

23. Illustrate a DNA part using the suitable nucleotides from those given below.



Hints : DNA has two strands.

Model Answer / Solution: Q5 onward: Answer using the standard Class X biology terminology shown in the paper; draw labelled diagrams where asked.

ANSWERS / SOLUTIONS – PAGE 5

Answer presentation: number each response exactly as in the question paper; use complete steps for 2-, 3-, 4- and 6-mark questions.