(Pages : 6)

ME 535

Sl. No.

SSLC MODEL EXAMINATION, FEBRUARY - 2018.

BIOLOGY

(English)

Time : 1½ Hours

Total Score : **40**

Instructions :

- First **15** minutes is given as cool-off time.
- Answer only on the basis of instructions and questions given.
- Consider score and time while answering.

Score

Answer **any 5** Questions from Qn. No. **1** to **6**. Each Question carries **1** score. **5x1=5**

1. Different organisms and sense organs are given in pairs. Select the correct pair.
   (a) House fly - Eye spot
   (b) Shark - Lateral Line
   (c) Snake - Ommatidia

2. Make word pairs from the words given in box as scientist - concept of evolution.

Darwin	De Vries
Mutation	
Lamarck	Natural selection

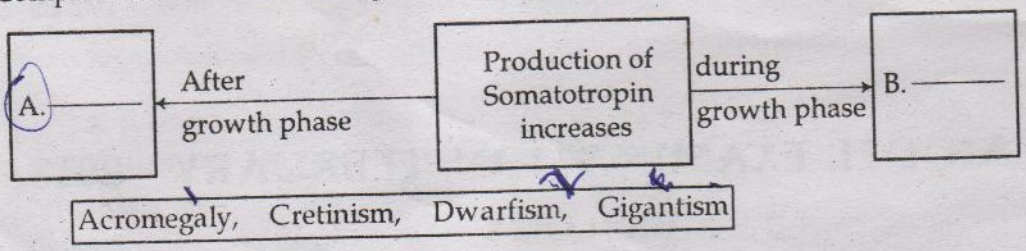
3. Select the correct statements regarding cerebrum.
   (a) Centre of thought, intelligence, memory and imagination.
   (b) Maintains equilibrium of the body.
   (c) Sensations.
   (d) Maintenance of homoeostasis.

4. **Correct** the word underlined in the given statements if there is any mistake.
   (a) The different forms of a gene are called <u>autosomes</u>.
   (b) The sugar seen in RNA is <u>ribose</u>.
   (c) The RNA that carries amino acids to ribosome is called <u>mRNA</u>.

P.T.O.

Score

5. Complete the illustration using the words given in the box.



Acromegaly, Cretinism, Dwarfism, Gigantism

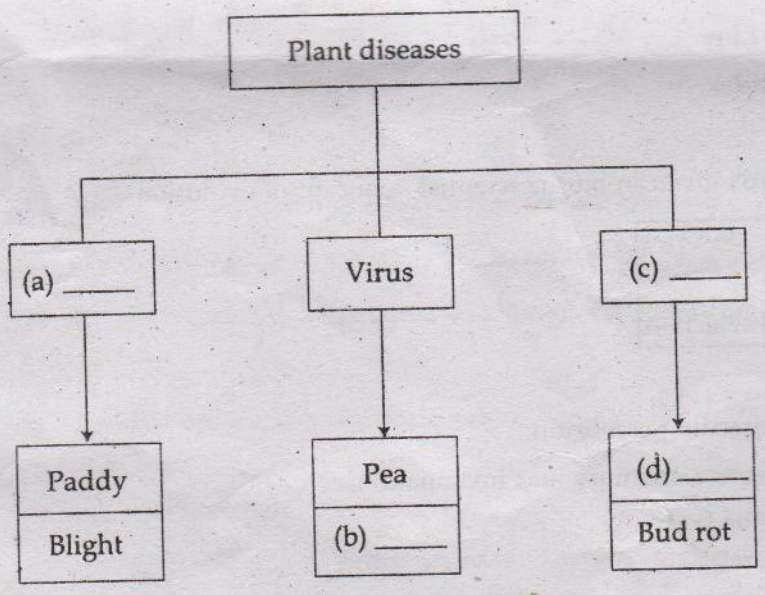
6. Identify the **correct** statement.
   (a) Non functional genes are called vectors.
   (b) The sum of the genetic material present in an organism is called its genome.
   (c) The technology used to identify the location of a gene is called gene therapy.

Answer **any 6** questions from Qn. No. **7** to **13**. Each question carry **2** score. **6x2=12**

7. Some symptoms of a disease are given.
   - Loss of memory.
   - Inability to recognize friends and relatives.

   (a) Identify the disease.
   (b) What is the cause of this disease ?

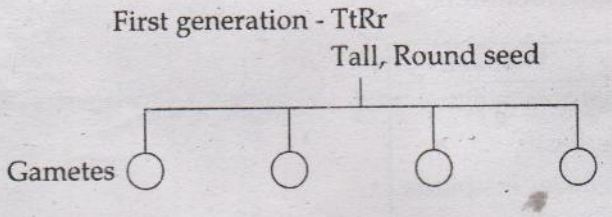
8. Fill the blanks in the illustration suitably.



9. A person severely injured in an accident needs blood. Antigen A is detected in his blood on blood test.
   (a) Identify the blood group of this person.
   (b) From the following persons, whose blood can be received by him.
   (i) X - A group (ii) Y - B group (iii) Z - AB group

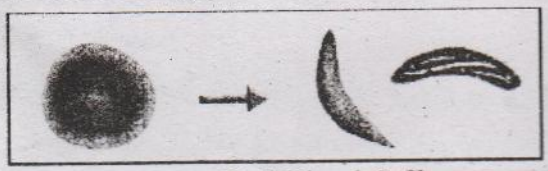
Score

10. First generation raised from the hybridisation experiment of Mendel is given. Write the gametes formed from this generation.



11. Classify the given defense mechanisms as primary level defense and secondary level defense.
    (a) Mucus in the respiratory tract.
    (b) Inflammatory response.
    (c) Phagocytosis.
    (d) Hydrochloric acid in the stomach.

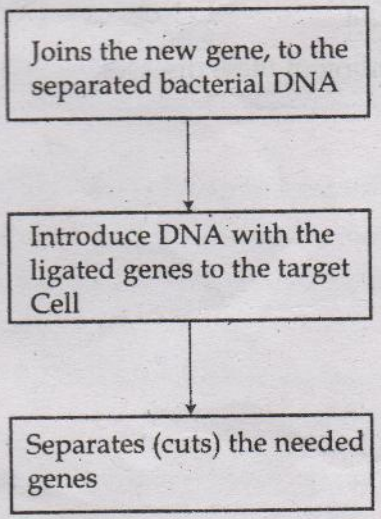
12. Observe the figure.



Red Blood Cells

    (a) Which disease is indicated by the structural change of RBC ?
    (b) Explain the cause of this disease.

13. (a) Steps of the genetic engineering process through which new gene become the part of genetic constitution of target cell are given in disorder form. Write them in correct sequence.



    (b) Name the genetic glue used to join the new gene to the bacterial DNA.

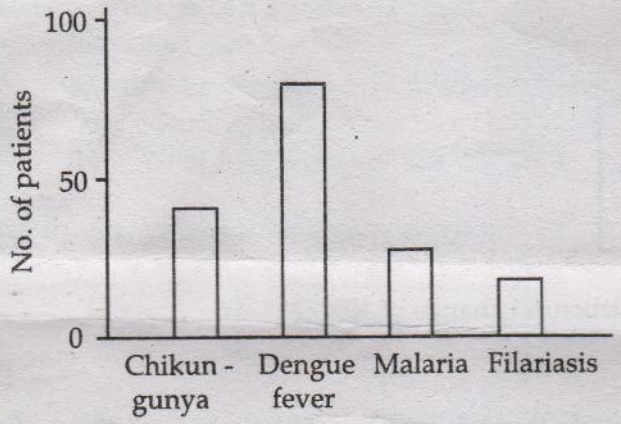
Score 5x3=15

Answer **any 5** Questions from Qn No. **14** to **20**. Each Question carries **3** score.

14. Rearrange columns **B** and **C** according to the column **A**.

A. Gland	B. Hormone	C. Disease
Hypothalamus	Somatotropin	Diabetes mellitus
Pancreas	Vasopressin	cretinism
Thyroid	Insulin	Diabetes insipidus
	Thyroxine	Dwarfism

15. Analyse the graph and answer the following questions.

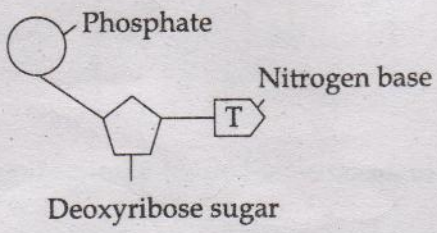


(a) Name the pathogen of disease that mostly affected. dengue fever

(b) Name the vector of the diseases shown in the graph. Mosquito

(c) What measure to be adopted to prevent the spreading of these diseases.

16. (a) Identify the illustration given below :



(b) Which nitrogen base, pairs with Thymine Ad

(c) Name the nitrogen base and sugar seen only in RNA.

Score

17. Arrange the main concepts related to organic evolution in correct order.

(a) Formation of organic compounds

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(b) Eukaryotic cells.

↓

(c) Multicellular organisms.

↓

(d) Chemical evolution.

↓

(e) Prokaryotic cells.

↓

(f) Colonies of eukaryotic cells.

18. Analyse the information given in boxes A and B. Make pairs of major components of vaccine - preventable disease.

A	• Killed germs, • Cellular parts of pathogens • Neutralized toxins

B	• Typhoid • Cholera • Tetanus • Hepatitis B

19. Give reason for the following :

(a) Persons with colour blindness cannot distinguish Red and Green colour.

(b) Deficiency of vitamin A causes nightblindness.

(c) Maximum visual clarity is there in yellow spot.

20. Differences in the amino acids of the beta chain a particular molecule in man compared to other organisms are given in the table.

Analyse the table and answer the questions.

Organism	Difference
Chimpanzee	0
Gorilla	1
Rat	31

(a) Which molecule was studied here ?

(b) Why amino acids vary in this molecule ?

(c) What is the inference drawn from this study ?

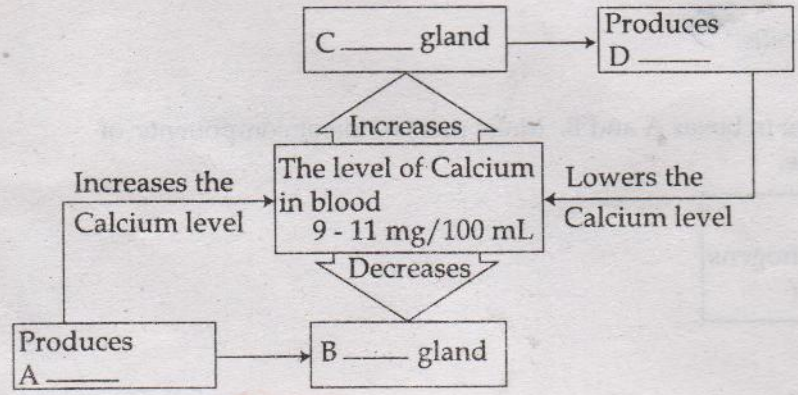
P.T.O.

Score

Answer any 2 Questions from Qn No. 21 to 23. Each question carries 4 score. 2x4=8

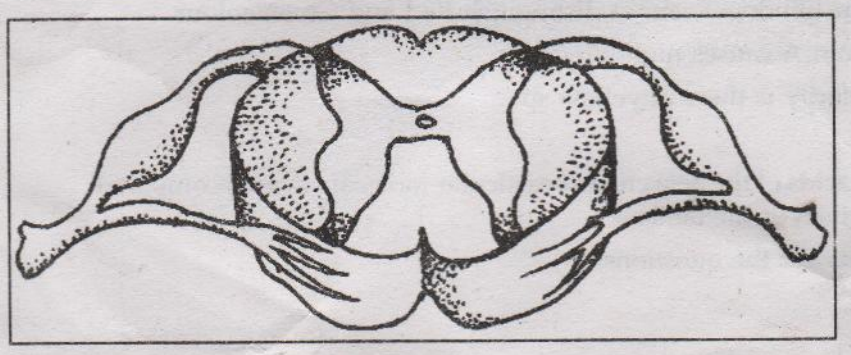
21. Analyse the indicators.
Name the parts of ear indicated and write the functions they perform.
(a) The tube that connects middle ear and pharynx.
(b) Coiled tube, like a snail shell.
(c) The membrane that separates External ear from the middle ear.
(d) The nerve that begins from the cochlea

22. Observe the illustration showing the maintenance of calcium level in blood and answer the following questions.



(a) Name the hormones A and D
(b) Name the glands C and B
(c) How A and D maintain the level of calcium in blood.

23. Re draw the diagram of cross section of the spinal cord. Name and label the following parts.



(a) Part through which the sensory impulses reach the spinal cord.
(b) Part through which the motor impulses go out of the spinal cord.
(c) Part filled with cerebro spinal fluid.

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