MALAPPURAM

MPM-1008 B

SSLC PRE MODEL EXAMINATION – JANUARY 2023

BIOLOGY

(English)

Time :- 45 minutes

Total Score :- 20

General instructions

- **The first 15 minutes is the cool-off time, in addition to writing time. Use this time to get familiar with questions and to plan your answers.**
- **Read instructions carefully before answering the questions.**
- **Questions for scores of 1, 2 and 3 are given options.**
- **Keep in mind, the score and time while answering the questions.**
- **The maximum score for questions from 1 to 13 will be 20.**

Answer any four questions from question number 1 to 5. Each carries one score. **(4x1=4)**

1. Which of the following white blood cells engulf and destroy germs? (1)
   - Eosinophil
   - Neutrophil
   - Basophil
   - Lymphocyte

2. Find out the odd one and write the common features of others. (1)
   Rat fever, Diphtheria, Nipah, Tuberculosis

3. Identify the word pair relation and complete the following. (1)
   Genetic glue : Ligase
   Genetic scissors : .....

4. If there is mistake in the underlined portion correct it. (1)
   (a) Lymph is formed from the blood and is reabsorbed into the blood.
   (b) The lymphatic system consists of lymph ducts, liver, and lymph nodes.
   (c) Lymph contains plenty of Monocytes. They destroy the disease causing bacteria in lymph nodes.
   (d) Lymph has a prominent role in defense mechanisms, like the blood itself.

5. The health problems associated with smoking and the organs they affect are given in pairs. Find and write the correct pairs in it. (1)
   (a) Emphysema – Brain
   (b) Stroke – Brain
   (c) Bronchitis – Lungs
   (d) Hypertension – Lungs

Answer any three questions from question number 6 to 9. Each carries two score. **(3x2=6)**

6. The various stages of phagocytosis are given in the box. Arrange them in sequential order and illustrate them in flowchart form. (2)

- Engulfs pathogen in the membrane sac.
- The pathogens are degenerated and destroyed by the enzymes.
- Combines with lysosome.
- Pathogen enter.

7. Analyse the statement and answer the questions given below.
Defects in genes that control the production of proteins that help blood clot can cause genetic disease.
(a) Which genetic disease is referred to here? (1)
(b) What is the main symptom of this condition? (1)

8. Proteins that can be used for the treatment of diseases in humans are produced through genetic engineering are given in the box. Make the word pair by using the word given in the box as mentioned in the indicator. (2)
Indicator : Protein required for treatment - Disease

Endorphin, Interferons, Somatotropin, Insulin

9. Analyse the statement and answer the questions given below.
Mutations have great relevance in evolution.
(a) What is called mutation? (1)
(b) What are the factors that cause mutation? (1)

Answer any two questions from question number 10 to 12. Each carries three score. (2x3=6)

10. Observe the illustration of human genetic makeup and answer the questions.

The genetic makeup of female → 44 + ...(i)...
The genetic makeup of male → 44 + ...(ii)...

(a) Name the chromosomes indicated as 44. (1)
(b) Complete (i) and (ii) suitably. (1)
(c) What is the reason for saying that the chromosomes indicated in (ii) are responsible for male and female child? (1)

11. Some of the plant diseases that adversely affect food production and their pathogens are given in the box. Write them in correct pairs as in the model. (3)

Model : Virus - Mosaic disease in peas

Virus, Bud rot of coconut, Bacteria, Mosaic disease in peas, Wilt disease in brinjal, Fungus, Bunchy top of banana

12. Analyse the statement and answer the questions given below.
Though antibiotics are effective medicines, their regular use should be avoided.

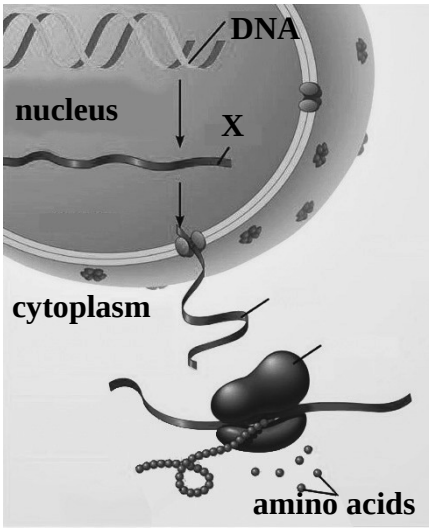
(a) What are the reasons to say that the regular use of antibiotics should be avoided? (1)

(b) Who was the first scientist to discover antibiotics? (1)

(c) What is the common name of the drugs that are used to destroy fungi and used to control viruses. (1)

Answer the question number 13 according to the instructions. Four score. (1x4=4)

13. Analyse the illustration and answer the questions given below.



(a) What process does the illustration refer to? Which RNA is marked as 'X? (1)

(b) Name the other RNAs participate in this process? (1)

(c) Write any two differences in the structure of DNA and RNA. (2)