BIOLOGY ENTRANCE TEST SAMPLE PAPER

Sample paper only provides

Section A: 5 Multiple Choice Questions

Section B: 2 Multiple Answers Questions

Section C: 2 Fill-in-the-blanks

Section D: 1 Short Answers Question

Actual paper

Section A: 25 Multiple Choice Questions (50 marks)

Section B: 5 Multiple Answers Questions (10 marks)

Section C: 5 Fill-in-the-blanks (20 marks)

Section D: 4 Short Answers Questions (20 marks)

Instructions

1. This is a **closed-book** test.

2. You are to **ensure** that:

- your laptops, computers and any other devices used for this test is in good functioning order and have uninterrupted power supply and internet connection throughout the duration of the test.
- you are in a conducive environment throughout the duration of the test.
- your answers are correctly saved by the end of the test.

3. You are **allowed** to use:

- a scientific calculator.
- a blank piece of paper (no larger than A4 size) for rough work. The paper will not be accepted for submission at the end of the test.

4. You are **not allowed** to:

- leave the test or leave your devices throughout the duration of the test.
- use the washroom throughout the duration of the test.
- communicate with any person, either face-to-face or through any communication device, other than the invigilator.
- refer to any references, e.g. textbooks, resources from a laptop or smart devices etc.
- share materials (e.g. electronic calculator) during the test.
- use any communication devices such as mobile phones, tablets, smart watches, headsets during the test.

5. **DO TAKE NOTE**:

- This is the sample paper
- For an actual paper, there are
    - Section A: 25 Multiple Choice Questions
    - Section B: 5 Multiple Answers Questions
    - Section C: 5 Fill-in-the-blanks Questions
    - Section D: 4 Short Answers Questions

Section A

Choose the MOST appropriate answer from the options provided.

Question 1 (2 marks)

Figure 1 shows the structure of a cell. Which statement below is **CORRECT**?

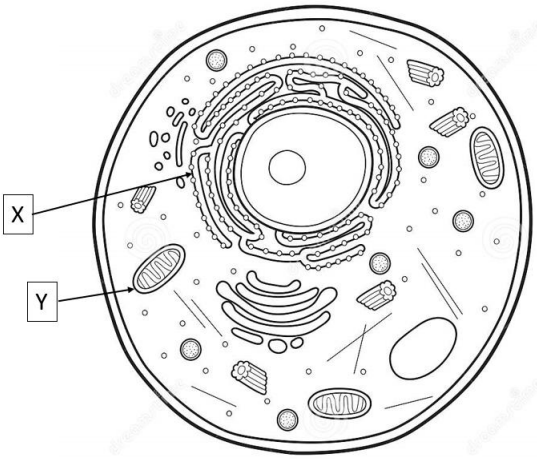


Figure 1

A. This is an animal cell and organelle X provides the energy for the cell.
B. This is an animal cell and organelle Y provides the energy for the cell.
C. This is a plant cell and organelle X provides the energy for the cell.
D. This is a plant cell and organelle Y provides the energy for the cell.

Question 2 (2 marks)

Food sample testing was conducted, and the results are shown in **Table 1** below:

Table 1

Test	Food Sample Test Result
Iodine test	Blue-black
Biuret test	Purple
Emulsion test	Clear
Benedict's test	Blue

Which organic molecules are most likely found in the food?
A. Starch and glucose
B. Protein and glucose
C. Starch and protein
D. Protein and oil

Question 3 (2 marks)

Which of the following events would directly increase the area of carbon sinks in an ecosystem?

A. Burning more plants
B. Humans eating more meat
C. Increasing soil stability
D. Draining lakes

Question 4 (2 marks)

Figure 2 shows the rate of activity of an enzyme-catalysed reaction.
What happens when the solution becomes more alkaline, e.g., with pH 12?

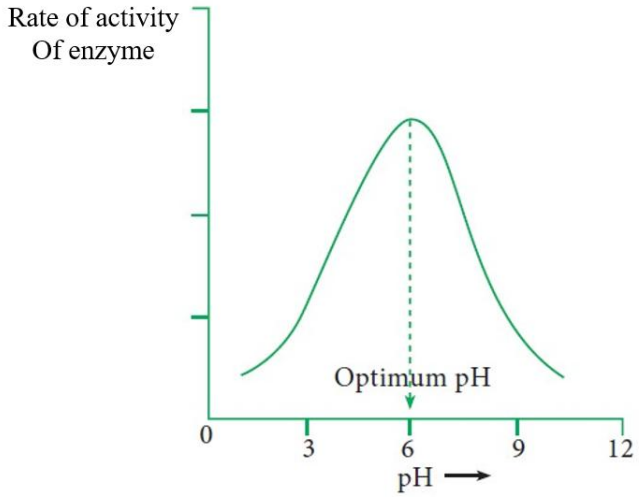


Figure 2

A. Active site of the enzyme changes shape.
B. Active site of the substrate changes shape.
C. Activation energy of the enzyme increases.
D. Activation energy of the enzyme decreases.

Question 5 (2 marks)

Which of the following options describes “Diffusion”?

Key: “✓” = True; “×” = False

	Occurs in any substances, e.g., gas and liquid	Takes place through a partially permeable membrane	Substances move down a concentration gradient
A	×	×	✓
B	✓	×	✓
C	✓	✓	×
D	×	✓	✓

End of Section A

Section B

Choose ALL appropriate answer(s) from the options provided.

Question 6 (2 marks)

Where is xylem found in plants?

A. Leaves
B. Stems
C. Roots
D. Flowers

Question 7 (2 marks)

Which of the following are examples of polysaccharides?

A. Starch
B. Glycogen
C. Maltose
D. Cellulose

End of Section B

Section C

Fill in the blanks with appropriate answers.

Question 8 (2 marks)

A _____ genotype contains two different alleles for a particular trait.

Question 9 (2 marks)

The _____ nervous system consists of the brain and the spinal cord.

End of Section C

Section B

Provide your answers in the spaces below each question.
NOTE: Round off your answers to 2 decimal places, if applicable.

Question 10

Figure 6 shows a food web. Answer the following questions. **(Total marks: 10 marks)**

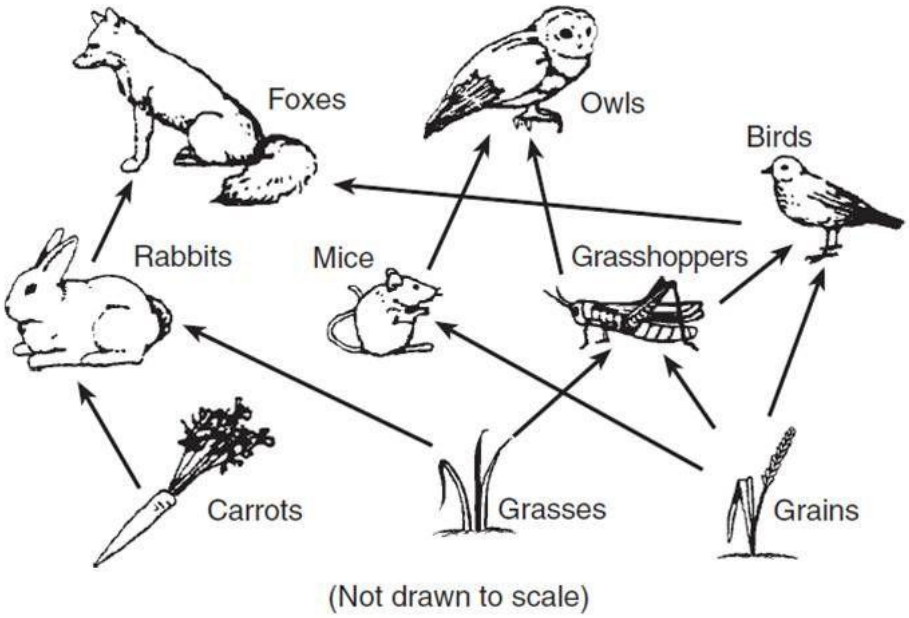


Figure 6

a) Identify **ONE** producer and explain why it is a producer in the food web. (4 marks)

b) Identify **TWO** secondary consumers and explain why they are secondary consumers in the food web. (3 marks)

c) State **THREE** ways in which energy may be lost between trophic levels. (3 marks)

End of Section D

END OF PAPER