

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**?

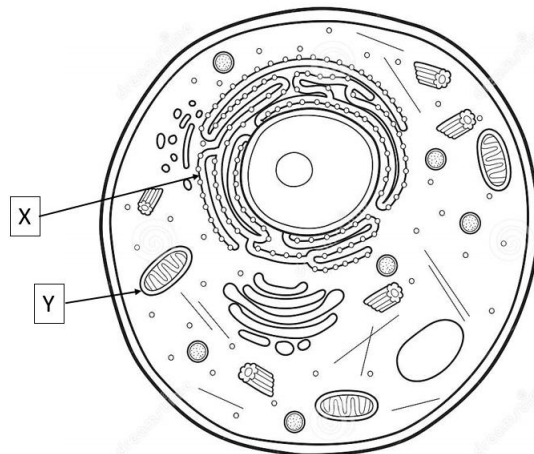


Figure 1

- 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?

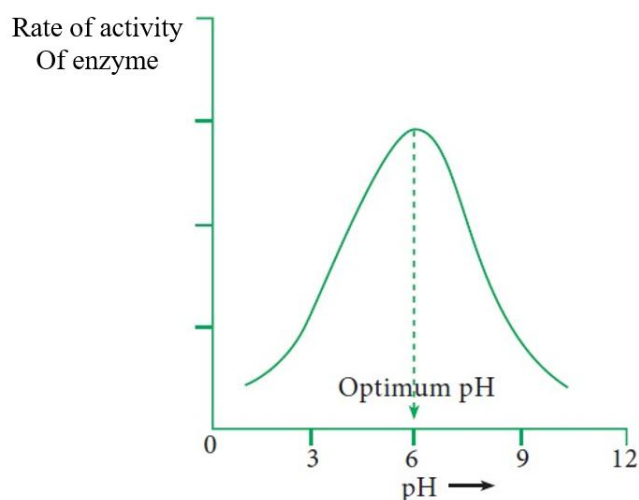


Figure 2

- 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; "x" = False

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

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)**

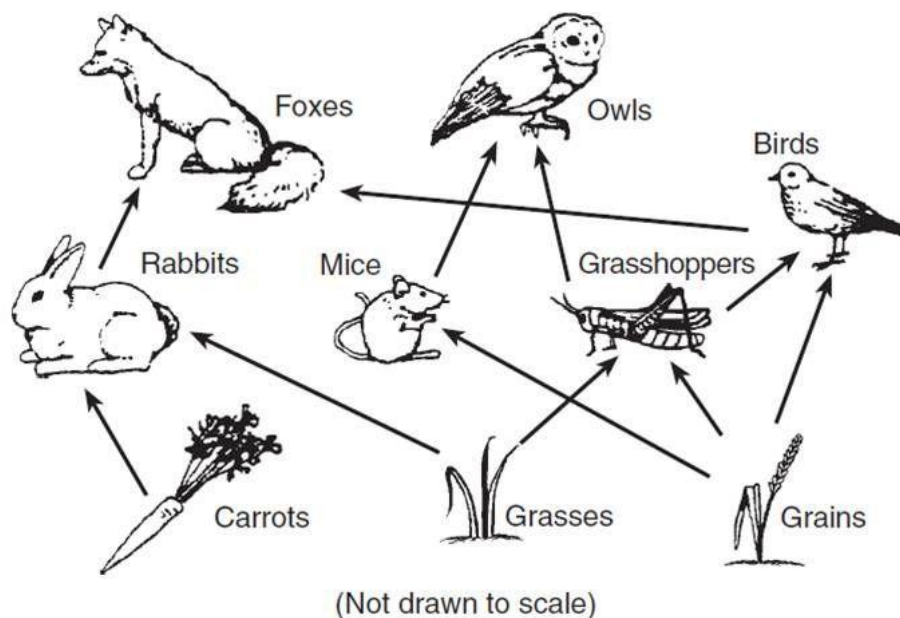


Figure 6

- 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