

Exam Practice Guide

Unit 3

Biology

Examination Questions

Key Features:

- ✓ 123 original examination style questions on all examinable topics.
- ✓ Full solutions and a marking guide to all questions.
- ✓ Separated into key topic areas within each Area of Study, enabling students to master one topic at a time.
- ✓ Written by VCE assessors who mark the real examinations.
- ✓ Excellent resource for examination practice.

Helping VCE students be the best they can be.

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SAMPLE

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AREA OF STUDY 1: How do cellular processes work?**Topic 1 – Plasma membranes****Question 1**

Chloroform is one of many substances that can elicit an effect on cells very quickly. Which of the following is a property of chloroform that allows it to do this?

- A. It is fat-soluble, so it enters cells easily
- B. It is a very large molecule, and must rely on appropriate protein channels to enter cells
- C. It interacts with carbohydrates on the surface of the cell to elicit its effect
- D. It is water-soluble, so it enters cells easily

Question 2

Below are the four steps that are involved in the opening of stomata. However, they are not in order.

- 1 Water enters the guard cells
- 2 Potassium ions are quickly pumped into the guard cells
- 3 Increased pressure inside the cells causes the guard cells to open
- 4 A change in water concentrations occurs between guard cells and surrounding cells

Choose the correct order from the following possibilities.

- A. 4,1,2,3
- B. 4,1,3,2
- C. 2,4,1,3
- D. 2,3,4,1

Question 3

If people plan to drink a lot of alcohol, they are advised to eat food about an hour before, as alcohol is able to elicit an effect on cells very quickly. Which of the following is a property of alcohol that allows it to do this?

- A. It is lipid-soluble, so it enters cells easily
- B. It is a very large molecule, and must rely on appropriate protein channels to enter cells
- C. It interacts with carbohydrates on the surface of the cell to elicit its effect
- D. It is water-soluble, so it enters cells easily

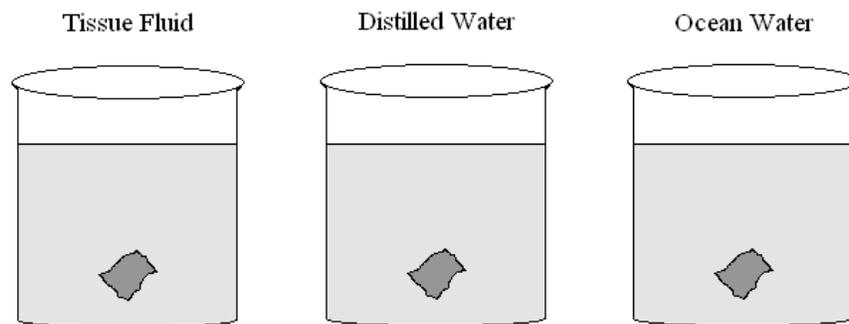
Question 4

Which of the following is a passive method of material transport that is mediated by a protein channel?

- A. Osmosis
- B. Diffusion
- C. Facilitated diffusion
- D. Active transport

Question 5 (6 marks)

A sample of muscle tissue was placed into an isotonic solution for 15 minutes. It was then removed and divided carefully into three sections: A, B and C. Section A was placed into isotonic tissue fluid. Section B was placed into a hypotonic solution of distilled water. Section C was placed into a hypertonic solution of saltwater.



Each section was left in their respective solutions for a further 15 minutes. They were then removed from the solutions and their cells were observed under a light microscope.

a. For each section, describe the appearance of the cells:

i. Section A

ii. Section B

iii. Section C

3 marks