4.2 Movement into & out of Cells

Question Paper

Course	CIE A Level Biology (9700) exams from 2022
Section	4. Cell Membranes & Transport
Topic	4.2 Movement into & out of Cells
Difficulty	Easy

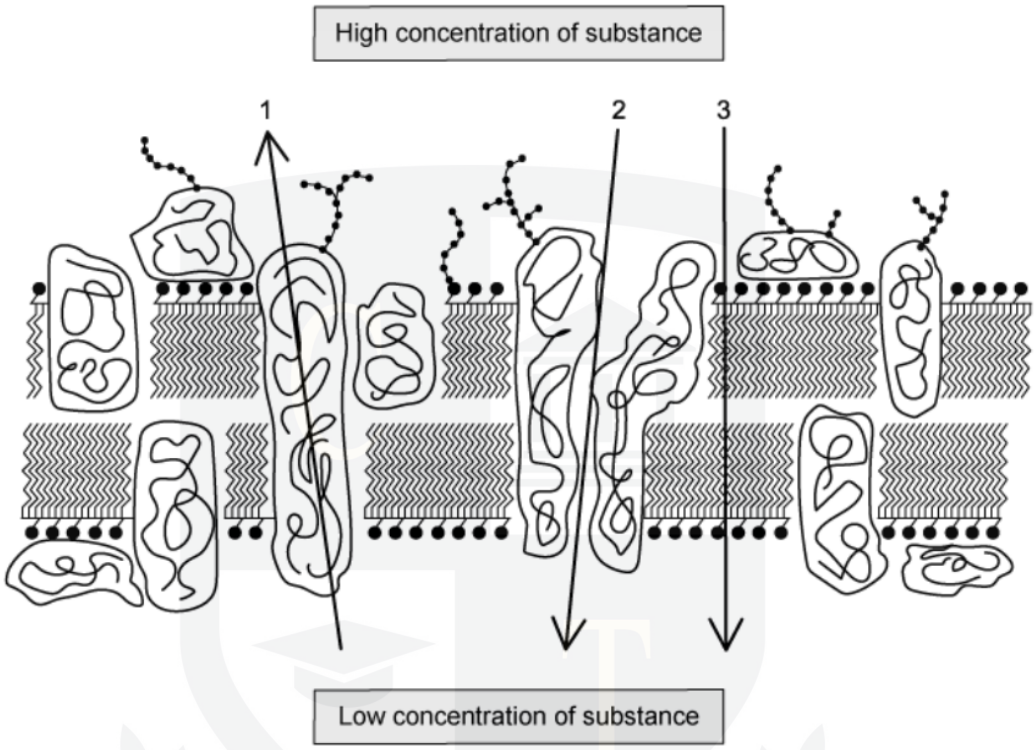
Time allowed: **10**

Score: **/10**

Percentage: **/100**

Question 1

The diagram represents three possible pathways through a cell surface membrane.



Which process is represented by each arrow?

	1	2	3
A	facilitated diffusion	diffusion	active transport
B	active transport	diffusion	facilitated diffusion
C	facilitated diffusion	active transport	diffusion
D	active transport	facilitated diffusion	diffusion

[1 mark]

Question 2

Which mode of transport is energy independent?

A diffusion

B active transport

C exocytosis

D endocytosis

[1 mark]

Question 3

Complete the sentence:

"Plasmolysis occurs when a(n) ___X___ cell is immersed in a___Y___ solution."

	X	Y
A	animal cell	pure water
B	animal cell	strong saline
C	plant cell	pure water
D	plant cell	strong saline

[1 mark]

Question 4

Cells require the following molecules for normal functioning:

1 glucose

2 water

3 amino acids

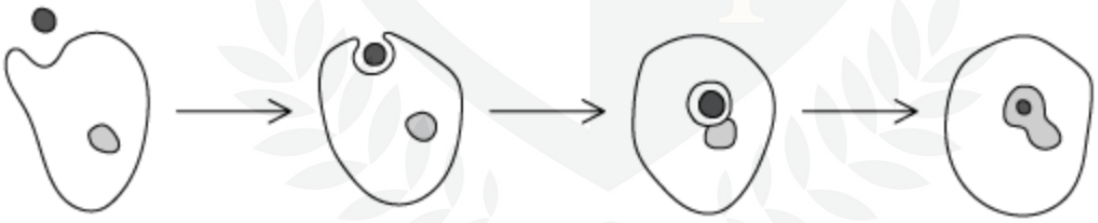
4 oxygen

Which molecules require a protein for transport across the cell surface membrane?

A 1 only **B** 1 and 3 **C** 1, 2 and 4 **D** 1, 2, 3 and 4

[1 mark]

Question 5



What form of cellular transport is shown in the diagram above?

A exocytosis

B facilitated diffusion

C protein pump

D endocytosis

[1 mark]

Question 6

The following are all examples of cellular transport:

1 bacterium engulfed by phagocytes

2 digestive enzymes being secreted from the pancreas

3 an egg cell taking up liquid nutrients from follicle cells

4 the release of neurotransmitters from the presynaptic neuron

Which examples require bulk transport?

A 1 and 2 **B** 1 and 3 **C** 1, 2 and 4 **D** 1, 2, 3 and 4

[1 mark]

Question 7

Which of the following statements regarding membrane transport is false?

A a protein channel is specific to one type of solute

B proteins are not transported across cell membranes

C polar and charged solutes will not cross the cell membrane

D glucose is always actively transported by protein carriers

[1 mark]

Question 8

"Diffusion is a result of…"

Which option correctly completes the sentence?

A cellular energy forcing molecules to collide with each other.

B cellular energy moving molecules across a partially permeable membrane.

C molecules constantly moving and colliding with each other.

D molecules being attracted to each other.

[1 mark]

Question 9

Substance X moves through a protein channel into a cell.

Which statement best describes substance X and it's movement?

A oxygen moving via osmosis down its concentration gradient

B glucose moving via diffusion down its concentration gradient

C sodium ion moving via active transport against its concentration gradient

D chloride ion moving via facilitated diffusion down its concentration gradient

[1 mark]

Question 10

The movement of water is dependent on the water potential either side of a partially permeable membrane.

What is the correct equation for calculating the total water potential (Ψ) from solute potential (Ψ_s)and pressure potential (Ψ_p)?

A $\Psi_s \times \Psi_p = \Psi$

B $\Psi_s \div \Psi_p = \Psi$

C $\Psi_s + \Psi_p = \Psi$

D $\Psi_s - \Psi_p = \Psi$

[1 mark]