

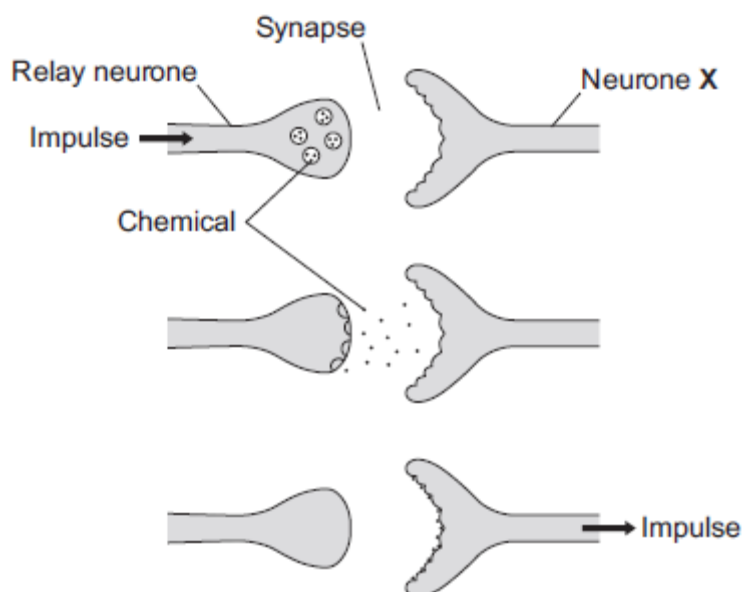
**Name of the Student:** \_\_\_\_\_

**Max. Marks : 17 Marks**

**Time : 17 Minutes**

**Q1.**

The diagram below shows how a nerve impulse passing along a relay neurone causes an impulse to be sent along another type of neurone, neurone X.



- (a) What type of neurone is neurone X?

\_\_\_\_\_

(1)

- (b) Describe how information passes from the relay neurone to neurone X.  
Use the diagram to help you.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(3)

- (c) Scientists investigated the effect of two toxins on the way in which information passes across synapses. The table below shows the results.

| Toxin      | Effect at the synapse                                          |
|------------|----------------------------------------------------------------|
| Curare     | Decreases the effect of the chemical on neurone X              |
| Strychnine | Increases the amount of the chemical made in the relay neurone |

Describe the effect of each of the toxins on the response by muscles.

Curare \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Strychnine \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

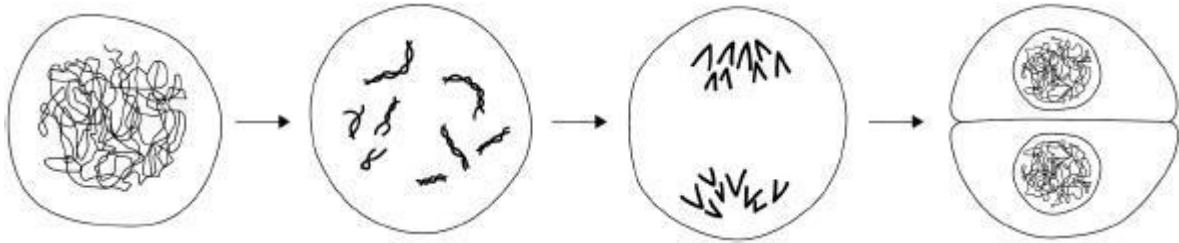
(2)  
 (Total 6 marks)

Q2.

Smoking increases the risk of lung cancer.

(a) **Figure 1** shows a lung cell dividing.

**Figure 1**



Describe the process of the cell cycle shown in **Figure 1**.

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(4)

(b) Lung cancer is malignant.

Explain what is meant by a malignant tumour.

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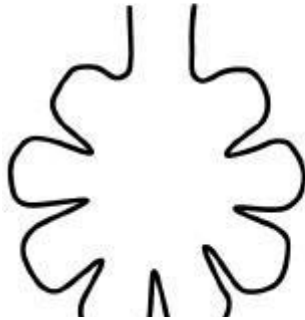
(3)

(c) Smoking can damage the lungs in different ways.

**Figure 2** shows alveoli from the lungs of two people.

**Figure 2**

**Person A**  
Alveolus from a person  
who does **not** smoke



**Person B**  
Alveolus from a person  
who does smoke



Person **A** and person **B** do the same exercise.

Explain why person **B** breathes much faster than person **A** during the exercise.

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(4)  
(Total 11 marks)