



HOW WELL DO YOU KNOW YOUR COURSE MATERIALS?

These questions (and many others) will be addressed in detail in the TSFX “VCE Exam Revision Lectures” in the School Holidays in September & October 2022.

UNIT 3 BIOLOGY

In an experiment, the rate of photosynthesis and respiration appears to be equal. What observations would support this claim?

A very common answer is that the oxygen produced by photosynthesis is being used by respiration. This answer would not obtain full marks.

How could you change this response to demonstrate your full understanding of the situation at hand, and gain marks as a consequence?

A human enzyme, catalase, works by increasing the conversion rate of hydrogen peroxide into water and oxygen inside liver cells. This enzyme was heated to 60°C. Explain what would happen to the function of the enzyme if the temperature was reduced back to 37°C.

A very common answer to this question is that the enzyme would not work because it has been denatured. This answer would not receive full marks.

What type of answer demonstrates your ability to discuss what happened to the structure of the enzymes in a step by step process?

An experiment was set up where 5 slices of thoroughly washed beetroot were placed in vinegar, 5 placed in distilled water and 5 placed in a detergent solution. Explain why 5 slices were used in each solution.

The most common answer is to reduce the effect of errors. What would a more accurate answer include in order to gain the full marks on offer?

The breakdown of sucrose into its glucose and fructose subunits is an example of an exergonic reaction. Explain what this means.

A larger disaccharide molecule, sucrose, is split into two smaller monosaccharide molecules, glucose and fructose.

Why does this answer not apply to the question?

Will a typical plant respire or photosynthesise to a greater extent during a 24 hour period?

A typical plant will respire to a greater extent than it photosynthesises, as respiration must occur at all times in a living plant.

Why would this response receive zero marks?

What are the subunits of all proteins/polypeptides?

*Carbon, hydrogen, oxygen, nitrogen and sulphur.
Is this answer adequate?*

Which phagocytes are mainly responsible for encountering pathogens in areas of the body adjacent to the external environment?

Macrophages.

Is this answer correct?

What is the role of complement in your body?

Assisting red blood cells, platelets and fibrin in clotting blood at the sites of wounds.

How accurate is this response?

Could you describe two chemical barriers that could be present in a plant that is protecting itself from an invading pathogen?

A molecule that takes part in many biochemical reactions is NADP+. Is it correct to state that energy is released when NADP+ is converted to NADPH?

This statement is incorrect. Do you know why?

TRUE/FALSE QUESTIONS

See the next page for answers.

1. Prions are infective agents which are thought to cause a range of brain diseases called encephalopathies.
2. Prions are composed of proteins.
3. T cells originate in the Thymus.
4. A Natural Killer Cell is a Lymphocyte.
5. All viruses contain DNA.
6. Skin is a first line defence in humans.
7. Cell Wall of plants is a first line defence.
8. Antibodies destroy bacteria.
9. Inflammation is part of the adaptive immune system.
10. Interferons are proteins.

THE SCHOOL FOR EXCELLENCE

ANSWERS TO TRUE/FALSE QUESTIONS

1. T
2. T
3. F
4. T
5. F
6. F (has to be intact skin)
7. F
8. T
9. F
10. T

**These questions (and many others) will be addressed in detail in the TSFX
“VCE Exam Revision Lectures” in the September/October school holidays.**

THE SCHOOL FOR EXCELLENCE