**CECIL ANDREWS COLLEGE**

**Yr 12 ATAR Human Biology**

**Extended Response 2 (Homeostasis and Response to Infection)**

Prepare answers to each of the questions below. In one week, you will be given one of them and you will have to write an extended answer to the question, under exam conditions.

**Question 1.**

(a) If a person is infected with Mycobacterium tuberculosis, antibodies are produced to fight the infection.

Describe the immune response that produces antibodies and explain how the antibodies act to fight the infection. (8 marks)

(b) Explain how the cell mediated immune system acts to neutralise a foreign body.

(12 marks)

**Question 2.**

(a) Describe the positives and the negatives of immunising a child against all of the pathogens recommended on the immunisation schedule. (6 marks)

(b) Distinguish between specific and non-specific modes of resistance to a pathogen.

Name four (4) non-specific mechanisms and describe how they work and name two (2)specific mechanisms and describe how they work. (14 marks)

**Question 3.**

(a) There are several hormones involved in the maintenance of optimal glucose levels in the blood.

Identify **three** of these hormones, state the specific location where they are produced and explain how they assist in the maintenance of optimal blood glucose levels. (12 marks)

(b) The inability to maintain optimal blood glucose levels results in the condition called diabetes mellitus. This condition occurs in two different forms known as Type 1 and Type 2.

In what ways are these two forms of diabetes mellitus similar and how do they differ? (8 marks)