**Extended Response 1: The Endocrine System**

You will have one week to prepare answers for the TWO questions below.

I will ask you to answer either question 1 or 2 in class time. You will have 20 minutes and will not be permitted to use notes. Each question is worth 20marks and you have to answer both part A and B

1. Mrs Jones has been feeling unwell for some months and was not able to cope with her everyday activities. She had noticed that her neck was getting thinker, preventing her from buttoning her shirts. She visited her doctor, who after a physical examination and blood tests diagnosed her with low thyroid activity, or hypothyroidism.
2. Imagine you are Mrs Jones’s doctor and are explaining how the thyroid gland works. Provide a description of the thyroid hormone feedback loop. (8 marks)
3. Glucose is required in the body cells for the production of energy during cellular respiration. To maintain glucose levels in a cell, negative feedback mechanisms are necessary for more glucose to be released into the bloodstream and to enter the cell.

Identify, name the source and describe the role of **three (3)** hormones in increasing glucose levels in the blood stream. (12 marks)

2

(a) Describe the roles of the hypothalamus and pituitary gland and explain how they work together. (12 marks)

(b) Contrast the modes of action of steroid and amine hormones. (8 marks)