**Year 12 Human Biology**

**Task 9 – Extended Response**

**Evidence for Evolution and Hominid Evolutionary Trends**

**Weighting: 8.5%**

**Total Marks: 25**

**Date: Week 8**

**Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Part A Mark: \_\_\_\_\_\_\_/5**

*I acknowledge that all the information contained in this task is my own work and not taken from other sources. If other sources have been used they have been acknowledged in my references.*

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

(Student Signature)

**INFORMATION AND PART A**

This task is comprised of two parts:  
  
**PART A: Two lessons in class to research the topic given and complete notes.**

The notes will be marked by your teacher and will contribute towards your overall mark for this task. You may **not** bring your full prepared notes into Part B, but you **can bring a single-sided A4 page summary** from your prepared notes into the Part B validation.

**PART B: One lesson in-class validation in the form of an examination – style extended**

**answer question.**

**PART A: Research Notes. Due ……………………………… (5 marks)**

On November 24, 1859, *On the Origin of Species* was published. In this book, Charles Darwin introduced a scientific theory – the Theory of Evolution. Darwin’s work illustrated that populations evolve over time through a process of natural selection. Darwin based his theory on the evidence available to him at the time – personal observations from his travels on the *HMS Beagle* and fossil evidence. He also used the writings of Sir Charles Lyell and Thomas Malthus to support his views.

Further evidence to support this theory comes from the relatively new fields of comparative biochemistry, comparative genomics and bioinformatics.

1. (a) Research the following:

* the human genome project
* comparative biochemistry, comparative genomics and bioinformatics
* processes involved in comparative genomics and comparative biochemistry
* the use of comparative biochemistry, comparative genomics and bioinformatics as evidence for the Theory of Evolution – including mtDNA, ERVs and Ubiquitous Proteins
* the benefits of using comparative genomics, comparative biochemistry and bioinformatics for both research into evolution and human health.
* applications that exist for the use of comparative genomics and comparative biochemistry.

(3 marks)

(b) You must include your references in a standard referencing format of your choice; for example, APA, MLA, Harvard or Chicago. Hand this in as a separate sheet attached to your note-taking sheet.

(2 marks)

***Please hand in this sheet, stapled together with your notes sheet and references sheet. Ensure you have made a single-sided A4 summary sheet to take into the test. Note: this A4 sheet must be your own work. Your teacher will initial the notes at the start of the Part B task. Any notes that are deemed highly similar or identical will be collected, and those students will be required to complete the task without them.***

***Please see below for the marking criteria for Part A***

***PART A Marking Criteria***

1. (a)Research component:

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Research presented in a note-taking format | 1 |
| Notes are concise and do not include irrelevant information | 1 |
| Notes cover all recommended research areas | 1 |
| **Total** | **3** |

(b) Referencing Component:

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Minimum of four references | **1** |
| Correct format used for selected referencing type | **1** |
| **Total** | **2** |

***\*Remember to also prepare a single-sided A4 sheet of notes to take into the Part B validation.***