

**Year 12 General Biology**

**Miss Cunningham**

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| **Task 6: Extended Response – Genetic Variation** | | | Weighting  10% |
| Marks Received | Marks Available | Percentage | |
|  | 10 |  | |

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

Time Allowed: 30 minutes

**Task 6: Extended Response – Genetic Variation**

**Student Instructions:**

This extended answer is 10 marks and worth 10% of your semester grade. You cannot use notes and the response will be completed under test conditions in 30 minutes based on the research you have made in the previous lesson.

**Extended Response Question:**

Genetic variation is a prerequisite for evolution. Mutation is one source of genetic variation and meiosis is another. Genetic diversity in specific species within a population is due to mutation and meiosis. In the answer section below, **identify** and **explain** how meiosis and mutation produce genetic variation, **explaining** how this process contributed to natural selection and **providing** a detailed example.

Please use the space below for your answer:

MEIOSIS (4 Marks)

Identify crossing over (1)

Explain crossing over causing variation (1)

Identify independent assortment (1)

Explain independent assortment causing variation (1)

MUTATION (2 Marks)

Identify how mutation cause variation (1)

Explain how mutation cause variation (1)

NATURAL SELECTION (2 Marks)

Discuss concept of natural selection. (1)

Relates how genetic variation affects natural selection (1)

EXAMPLE (2 Marks)

Provide example (1)

Explain example (1)