**Biology 103 Alien Assignment 2**

**\*\* Show ALL WORK.
\*\* Show UNITS.
\*\* Each question is worth 10 points.**

**\*\*Submit ONLY Word file or PDF on Moodle. No other formats allowed.**

1. For retinitis pigmentosa:
(1) Explain why different forms of the disease show inheritance as autosomal dominant; as autosomal recessive; or as X-linked.

(2) For the X-linked version: A woman carrying the defective allele may have partial vision loss, but men show only full vision or full loss of vision. Explain why, with a diagram. (You can use Table in Word.)

2. In a large population of penguins, an occasional “blond” (pale brown) penguin is born to common black-backed parents. The blond appears to live normally, but their own offspring are generally black.

Offer a hypothesis to explain these phenomena. If you could acquire some penguins, propose how you could test your hypothesis.

3. Evolve a large Biomorph with green eyes and a blue nose.

Save screenshot, crop and paste your Biomorph here.

4. Mendel Aliens: Suppose a right-armed alien and a left-armed alien produce offspring including right-armed, left-armed, no-armed, and both-armed aliens.

A. What are the genotypes (allele combinations) of each parental alien? Include diagram.

B. If you collect the offspring, and breed a both-armed offspring with a left-armed offspring, what types of *their* offspring may you find? Include diagram.

5. Tell a story (between 100-300 words) that illustrates what environmental conditions favor the two-armed aliens, versus the zero-armed aliens.