**Biology 3201 - Unit 3 - Genetic Continuity**

**Mendelian Genetics** - Chapter 16; page 524

1. Define the terms heredity and genetics.
2. Explain Mendels concept of unit characters and describe the unit theory of inheritance
3. Explain the meaning of the following terms:

Trait

P generation (parent generation)

F1 and F2 generation (first and second filial generation)

Hybrid

Purebred

Dihybrid

Monohybrid

Dominant

Recessive

Gene

Allele

Homozygous

Heterozygous

Product rule

Punnett square

Genotype

Phenotype

4. Explain how Mendels experiments support:

A. principle of dominance

B. law of segregation

C. law of independent assortment

5. Determine the outcome of monohybrid and dihybrid crosses

6. Explain the meaning of the following terms:

A. incomplete dominance

B. co-dominance

C. multiple alleles

7. Predict the outcome of monohybrid and dihybrid crosses for incomplete and co-dominance.

8. Demonstrate the inheriance of traits governed by predicting the genotypic and phenotypic ratios involving human blood types.

9. Explain the significance of a test cross.

10. Use a test cross to determine the unknown genotype of a dominant organism.