Biology 160

Unit V

I. Genetics  
 A. Gregor Mendel

1. Pea

P generation

F1 generation

B. Mendel’s principles/laws

1. Principle of inheritance

a. Phenotype

b. Genotype

2. Principle of dominance  
 a. Alleles

3. Mendel’s law of segregation

a. Segregation

4. Mendel’s law of independent

a. assortment

II**. Genetic expression**

A. Autosomal dominance

1. Phenotypes per trait

B. Incomplete dominance

1. Phenotypes per trait

C. Codominance

1. Phenotypes per trait

D. X-linked recessive

1. phenotypes per trait

III. Types of crosses

A. monohybrid cross

B. Dihybrid cross

C. Test cross

IV. Pedigree

VI. Protein synthesis

A. Information flow

1. DNA 🡪 RNA 🡪 protein

B. Central dogma of biology

1. Gene sequence

2. RNA sequence

3. Amino acid sequence

4. Shape

C. Ribonucleic acid

nucleotide

1. Structure

2. Function

D. Types of RNA

1. mRNA

a. codon

2. tRNA

b. anticodon

E. Ribosome

F. Genetic code

G. Transcription

1. goal

2. steps

H. Translation

1. initiation

2. elongation

3. termination

VII. Protein structure

A. primary structure

B. secondary structure

C. tertiary structure

D. quaternary structure

VIII. Mutations

A. Chromosomal

1. nondisjunction

2. translocation

B. Genetic

1. substitution

2. frame-shift

a. deletion

b. insertion

3. duplication

4. inversion

IX. Microevolution

A. Natural selection

B. Gene flow

C. Founder effect

D. Bottle neck

E. Genetic drift

Exam V

The end