NAME:

LABORATORY 10; EXERCISE 1. PEDIGREE ANALYSIS

Purpose – This Laboratory will be divided into three exercises. In the first exercise you will be asked to develop your own model Pedigrees for common Modes of Inheritance. In the second exercise you will use these models to help answer a set of questions. For the last exercise, you will act as a Genetic Counselor assigned to analyze a set of actual case studies.

SPECIFIC LABORATORY PROTOCOL –

For each of the scenarios presented below, develop your own Pedigree illustrating the Mode of Inheritance described and the family information provided. Include as much information as possible about the probable genotypes of the individuals in your Pedigrees. All of the Pedigrees illustrate three generations (I, II, III). You must include all individuals, but you may add others outside the family as needed. When "affected" is noted, your model should provide an appropriate inheritance pattern to produce these individuals. If no affected individuals are listed, select your own affected individuals to properly illustrate the Mode of Inheritance.

PEDIGREE #1

Mode of Inheritance – AUTOSOMAL RECESSIVE

Familial Information –

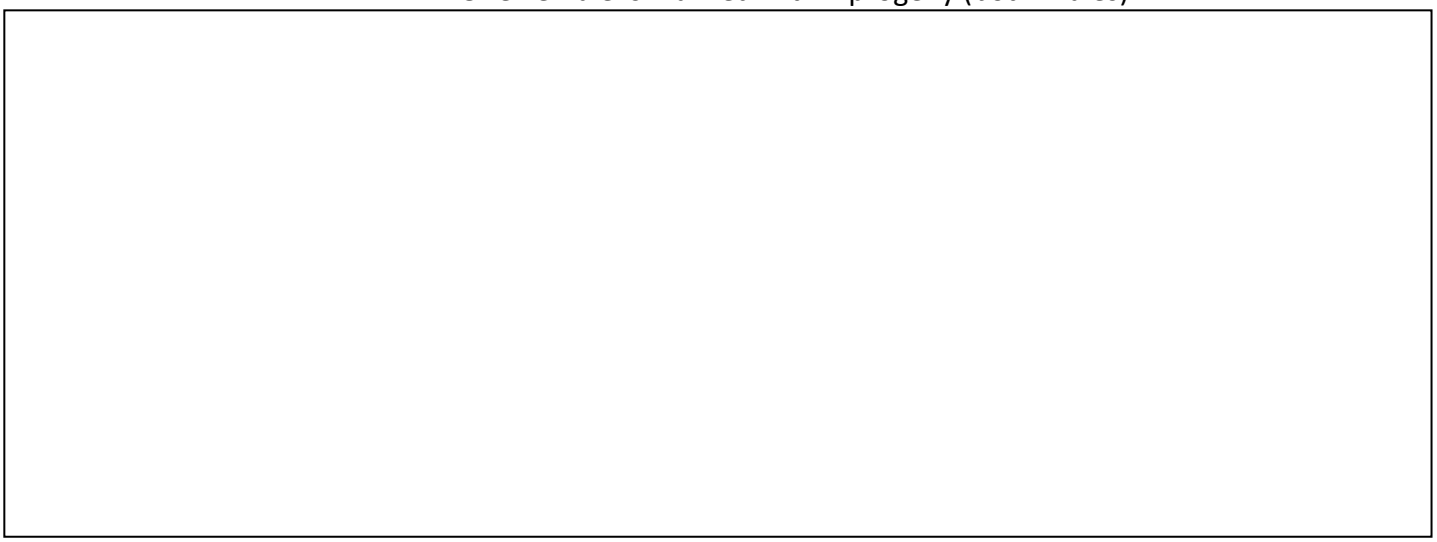
Generation 1	Neither individual (grandparents) are affected.
Generation 2	Three Progeny (Male 1 is affected; Male 2 and Female 3 are unaffected)
Generation 3	Male 1 is married with 2 progeny (Male and Female) Female 3 is married with 2 progeny (Normal Male and Affected Female)

PEDIGREE #2

Mode of Inheritance – AUTOSOMAL DOMINANT

Familial Information –

Generation 1	One mating (the grandparents)
Generation 2	Four progeny (2 Females, 1 Male and 1 Still Born)
Generation 3	One Female is married with 3 progeny (2 Males and 1 Female)
	One Female is married with 2 progeny (both Males)



PEDIGREE #3

Mode of Inheritance – X-LINKED RECESSIVE

Familial Information –

Generation 1	One mating (the grandparents)
Generation 2	Four progeny (2 Females are monozygotic twins, one female and one male)
Generation 3	One Female is married with 1 progeny (affected Female)
	One Male is married with 3 progeny (2 Females and 1 Male)