Salahaddin University –Erbil
College of Agricultural Engineering Sciences
Animal Resources Department

Subject: Poultry Breeding
Stage: 4
Time: 1 hour
Date: 7/12/2021

Second MonthlyExamination, First Semester - 2021-2022

Q1/ Answer (8) questions briefly. **(8 Marks)**

1. Gene frequency is…….
2. How do you know if the flock is in Hardey-Weinberg equilibrium?
3. When do breeders use migration and selection to improve their flock?
4. How G.f is get from genotype frequency?
5. Write the aspects of Hardey-Weinberg Law.
6. What does the mutation rate of 1×10^{-6} mean?
7. Why do we have to start the problem with the percentage of the homozygous recessive in the population?
8. What are the differences between bottleneck effect and founder effect of random drift?
9. What does Rxy=25% mean?
10. Define relationship.

Q2/ Answer these questions. **(12 Marks)**

A/ Suppose we have a flock consist of 16, 48, and 36 individuals with red (WW), redden white (Ww), and white (ww) color, test if the flock is in H.W. equilibrium use X^2 method?

B/ Suppose we have 10 animals from a population in the random mating with qi = 0.8 and then they added to another group containing 90 animals with qA = 0.6. What will be the gene frequency if they matted randomly?

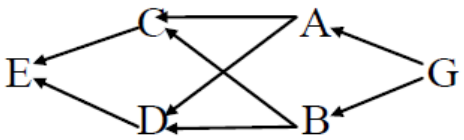
C/ If 18% of chicken had a bad condition (in a recessive trait) and 60% were died before they could lay an eggs, how many would have this condition in the next generation?

Q3/ A/ If we have a flock consists of the following genotype array: **(10 Marks)**

Genotype	**BB**	**Bb**	**bb**
Performance	2.5	2.5	2.0
Frequency	730	950	320

A new disease targets and kills only those individuals who are homozygous recessive, all individuals homozygous recessive genotype do not survive. **What is the frequency of the allele A after two selections (generation)**, if this generation of the population reproduces by random mating?

B/ In this mating find (**REG, RCD, RAB, FE, FD and FC**)



Lecturer, Kamaran Mustafa Taha