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

Subject: P. Animal Breeding
Stage: 3
Time: 1 hour
Date: 21/2/ 2023

First Monthly Examination, Second Semester - 2022-2023

Q1/ Answer (8) questions briefly. (8 Marks, 1 mark for each)

1. How many common ancestors do offspring have in half and full sibs' relationship?
2. When do breeders use migration and selection to improve their flock?
3. How G.f is calculated from genotype frequency?
4. Write the aspects of Hardey-Weinberg Law.
5. What does the mutation rate of 1×10^{-6} mean?
6. Animal breeding is applied through 1…… 2…….
7. Why do breeders have to start the solve of problem with the percentage of the homozygous recessive in the population?
8. If we got 3 offspring in a matting, what are the probability if 2 of them are male?
9. What does Rxy=25% mean?
10. What does it mean when a population is in Hardy-Weinberg equilibrium?

Q2/ Answer (2) of these questions. (12 Marks, 6 marks for each)

A/ Suppose we have a flock consist of 96 Black, 4 white, If black color is complete dominance over white color. Calculate gene and genotype frequency from this population, then Is this flock in H.W. equilibrium?

B/ Suppose we have two populations A and B with G.F. (0.25) and (0.30) respectively. The ratio of imported animals from A to B will be 1/5. What will be the gene frequency in the new population?

C/ If black color (BB, Bb) is dominated on (bb) red color from this mating Bb*Bb, Calculate the probability to get 4 black on 10 births, (If arrangement is not important).

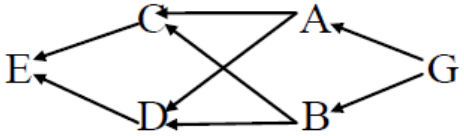
Q3/ Answer the following questions (10 Marks, 6 marks for each)

A/ If we have a population consists of:

Genotype	**BB**	**Bb**	**bb**
Frequency	730	950	320

Suppose the breeder wants to select the individuals with desirable trait, while the target trait does not present in recessive **homozygous** individuals, so that **What is the frequency of the allele that hold the desirable trait after two selections (generation)**, if this generation of the population reproduced by random mating?

B/ In this mating find (**R_{CD}, R_{AB}, F_E, F_D and F_A**)



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