**Sample of questions in Poultry Breeding – Animal Resources Department**

Q1. Define: Melanin, Albinism, Silky plumage, Non-recurrent mutation, Pencilling feather, Double Spur, Heritability, Heterosis, and Average effect of gene?

Q2. Fill in the blank with the suitable word:

1. The origin of recent domestic fowl is ………… ………… .

Q3. Answer the following:

a. Draw chart to explain fertilization?

b. There are two theories to have different breeds, what are they? Explain one of them?

Q4. a. Classify the fowl around the world according to their class? List the breeds of each class?

b. Explain the economic useful of Barred plumage trait with showing the mating to produce F1 and F2?

c. Classify the fowl according to colour of egg?

Q5. What will be the results of F1 and F2 from mating fowls with Pea and Rose comb?

Q6. What do you know about?

1. The economic useful of silver and gold plumage?

Q7. Calculate the heritability (h2) from the following data recorded on sires and their progenies weighted at 8-weeks of age:

Q8. In a trial using nested design, the results of Analysis of Variance and Covariance of body weight of chicks at 4 and 8 weeks of age were:

|  |  |  |  |
| --- | --- | --- | --- |
| Source of Variation | Mean Squares and Mean Cross Products | | |
| Body weight at 4-weeks | Body weight at  4 \* 8 weeks | Body weight at 8-weeks |
| Sires | 302.1 | 109.15 | 616.0 |
| Dams | 209.36 | 83.26 | 481.3 |
| Progeny | 118.00 | 47.48 | 350.6 |

K1=K2=13, K3=20

Calculate h2 for each trait, and genetic (rg), Phenotypic (rp), and environmental correlations (rE) between the two traits?

Q9. If you have a flock of local strain produced 18 eggs as a monthly average and crossed with exotic strain produce 24 eggs, their progeny produce 23 eggs. Calculate the heterosis, what is the type of heterosis?

Q10. Calculate RAB, RCD, RCG, REG, FC, FD and FE from the following chart:

A C

G E

B D