Salahaddin University – Erbil
College of Agricultural Engineering Sciences
Fish and Aquatic Resources Department

Subject: Experimental Design/Practical
Stage: Third
Time: 1 hour
Date: 1/11/2023

Academic Year 2023-2024 – First monthly exam

Name:

Q1\ Five test diets were tested against the growth performance of a certain fish in plastic pools for a period of 1 month. The daily feed provided was 50% of the total weight of 40 fry kept in each plastic pool. The experimental design used was completely randomized design and each treatment was replicated 4 times. Growth performance is given below:

Treatments (test diets)	**Net gain in weight (g)/fish**			
	Rep. 1	**Rep. 2**	**Rep. 3**	**Rep. 4**
A	0.95	0.85	0.85	0.90
B	0.43	0.45	0.40	0.42
C	0.70	0.90	0.75	0.70
D	1.00	0.95	0.90	0.90
E	0.90	1.00	0.95	0.95

A) Complete the ANOVA table?

B) Test by Duncan, which of these factors that affect more than other? Discuss the result?

For information: **TSS = 0.8102 F tab.** $_{0.05}$ **= 3.06, SSR=3.01, 3.16, 3.25, 3.31** **(40 marks)**

Q2: The experiment was conducted to study the effect of (4) treatments using CRD. Complete ANOVA table and then compare between treatments using $LSD_{0.01}$.

For information: Σyij^2**=1173 F tab.** $_{0.01}$ **= 5.95 t tab.** $_{0.01}$**= 3.055**

Treatments	**r1**	**r2**	**r3**	**r4**
t1	9	8	9	10
t2	8	7	7	9
t3	7	5	6	6
t4	9	12	8	13

(40 marks)

Q3: A study was conducted to compare between (3) types of meat on cholesterol content, complete ANOVA table.

For information: **TSS==1078.9 F tab.** $_{0.01}$ **= 8.02**

Types	**r1**	**r2**	**r3**	**r4**	**r5**
Sheep	145	147	151	149	152
Turkey	130	129	133		
Fish	132	131	126	130	

(20 marks)

With my best wishes

Dr. Azad Sh. Salih