HW-6

MS -Business Intelligence & Analytics

Spring 2016

BIA – 654 A

Mar 8, 2016

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Ethics Statement

I pledge on my honor that I have not given or received any unauthorized assistance on this assignment/examination. I further pledge that I have not copied any material from a book, article, the Internet or any other source except where I have expressly cited the source.

Signature _Mohit Ravi Ghatikar_____ Date: 03/08/2016___

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1)

a)

	- Level	+ Level
Factor A	22	30
Factor B	Low	High
Factor C	40% less	Current Amount

Run Order	A	B	C	AC	BC	ABC	Response	Std Order
1	+	-	-	-	+	+	45	2
2	-	+	-	+	-	+	47	3
3	-	-	+	-	-	+	8	5
4	+	+	-	-	-	-	10	4
5	+	-	+	+	-	-	40	6
6	+	+	+	+	+	+	8	8
7	-	+	+	-	+	-	41	7
8	-	-	-	+	+	-	8	1

b) Estimated Main factor of A = delta A(+)/4 – delta A(-)/4

= -0.25

Estimated Main factor of B = delta B(+)/4 – delta B(-)/4

= 1.25

Estimated interaction of AC = delta AC(+)/4 – delta AC(-)/4

= -0.25

2a)

Here we are interested to know if there are any systematic differences among the methods of appraisal. We want to know if the population means of A, B and C are different or not. So we have to use one-way ANOVA.

2b)

In this problem, we are interested to know if there is any difference between the mean scores of 4 Chardonnay wines. Hence we need to use one-way ANOVA with blocking, where the factor is Chardonnay wine and the blocking variable is Judges because we are not interested in any effect on Judge scores.

2c)

Here we are interested to know if there is an interaction between Education level and Gender. Therefore we need to use two-way ANOVA with the two factors being Education and Gender.

3)

We choose any one factor out of A, B, C, D and E. Therefore we will have $2^5 = 32$ runs.

After one factor is fixed, then we need to find the best factor among the remaining four. Also each factor has 2 values. Therefore the number of runs with 4 factors and 2 runs is $2^4 = 16$ runs.

For a combination of 4 factors we will have $2^4 * 4 = 64$ runs.

Total number of runs = 64 + 16 = 96 runs.