**BF[1] – Decomposition Key**

**Type in your score here 🡪 \_\_\_\_ out of 26 points possible**

1. (5 points) Ponder/Reflect Exercise – Reflect on what you have learned from this portion of the class. Examples of what you can do are: a brief outline of material covered, insights you gained from class or personal study, or items you feel that you need to follow up or work on. (3-5 sentences)

**Any thoughtful answer is sufficient.**

Note that problems 6-7 on p. 103 are based on the introductory paragraph labeled “The

bivariate BF[1] model."

2a. (3 Points) #6 on p. 103 in book

**Observed Values**

|  |  |
| --- | --- |
| **Long** | **Short** |
| **1.490** | **1.375** |
| **1.525** | **1.485** |
| **1.555** | **1.255** |
| **1.790** | **1.285** |

**=**

**Benchmark**

|  |  |
| --- | --- |
| **Long** | **Short** |
| **1.470** | **1.470** |
| **1.470** | **1.470** |
| **1.470** | **1.470** |
| **1.470** | **1.470** |

**+**

**Day Length**

|  |  |
| --- | --- |
| **Long** | **Short** |
| **0.120** | **-0.120** |
| **0.120** | **-0.120** |
| **0.120** | **-0.120** |
| **0.120** | **-0.120** |

**+**

**Residual Error**

|  |  |
| --- | --- |
| **Long** | **Short** |
| **-0.100** | **0.025** |
| **-0.065** | **0.135** |
| **-0.035** | **-0.095** |
| **0.200** | **-0.065** |

2b. (3 Points) #7 on p. 103 in book

**Long day average**

**Overall average**

**Observed Value**

**Fitted Value**

**Chance Error**

**Fitted Values**

3. (4 points) #6 on page 103.



4. (5 points) #8 on p. 103. Also give a p-value for the day length factor and give a conclusion.



**If we would have set α=0.05, we would have rejected the null hypothesis and say that there is a difference between the two means.**

5. (3 points) #D21 on p. 180. Instead of calculating critical values, instead use your F-statistic for “Conditions" to calculate a p-value using R.





6. (3 points) #D24 on p. 181. Include an F-statistic and a p-value for the Group factor.



**DON’T FORGET TO SCORE YOUR HOMEWORK AT THE TOP**