# Week 5: Assignment 5

The due date for submitting this assignment has passed.

**Due on 2023-03-01, 23:59 IST.**

## Assignment submitted on 2023-02-27, 18:31 IST

1) The 'F' ratio in a completely randomized ANOVA is the ratio of    **1 point**

○ MST/MSE
◉ MSTR/MSE
○ MSE/MSTR
○ MSE/MST

Yes, the answer is correct.
Score: 1
Accepted Answers:
*MSTR/MSE*

2) A term that means the same as the term "variable" in an ANOVA procedure is    **1 point**

◉ factor
○ treatment
○ replication
○ variance within

Yes, the answer is correct.
Score: 1
Accepted Answers:
*factor*

3) An ANOVA procedure is used for four samples, each comprised of 30 observations, were taken from the four populations. The numerator and denominator (respectively) degrees of freedom for the critical value of F are    **1 point**

○ 3 and 30
○ 4 and 30
○ 3 and 119
◉ 3 and 116

Yes, the answer is correct.
Score: 1
Accepted Answers:
*3 and 116*

4) Which of the following is not a required assumption for the analysis of variance?    **1 point**

○ The random variable of interest for each population has a normal probability distribution
○ The variance associated with the random variable must be the same for each population
○ At least 2 populations are under consideration
◉ Populations have equal means

Yes, the answer is correct.
Score: 1
Accepted Answers:
*Populations have equal means*

5) If, sum of square between treatments (SSTR) = 6,750 H0: m1=m2=m3=m4 Sum of square of error (SSE) = 8,000 Ha: at least one mean is different Total number of elements (nT )= 20 The mean square between treatments (MSTR) equals    **1 point**

○ 400
○ 500
○ 1,687.5
◉ 2,250

Yes, the answer is correct.
Score: 1
Accepted Answers:
*2,250*

6) Refer to Q 5. The mean square within treatments (MSE) equals    **1 point**

○ 400
◉ 500
○ 1687.5
○ 2250

Yes, the answer is correct.
Score: 1
Accepted Answers:
*500*

7) Refer to Q 5. The test statistic to test the null hypothesis is equals    **1 point**

○ 0.22
○ 0.84
○ 4.22
◉ 4.5

Yes, the answer is correct.

8) An ANOVA procedure is applied to data obtained from 6 samples where each sample contains 20 observations. The degrees of freedom for the **1 point** critical value of F are

○ 6 numerator and 20 denominator degrees of freedom

○ 5 numerator and 20 denominator degrees of freedom

◉ 5 numerator and 114 denominator degrees of freedom

○ 6 numerator and 114 denominator degrees of freedom

Yes, the answer is correct.
Score: 1
Accepted Answers:
5 numerator and 114 denominator degrees of freedom

9) The critical F value with 6 numerator and 60 denominator degrees of freedom at alpha = .05 is **1 point**

○ 3.74

◉ 2.25

○ 2.37

○ 1.96

Yes, the answer is correct.
Score: 1
Accepted Answers:
2.25

10) The ANOVA procedure is a statistical approach for determining whether or not **1 point**

○ the means of two samples are equal

◉ the means of two or more samples are equal

○ the means of more than two samples are equal

○ the means of two or more populations are equal

No, the answer is incorrect.
Score: 0
Accepted Answers:
the means of two or more populations are equal