

Quiz # 4
Chapter 6 and 7
Suggested Answers
Group 3
Econometrics 06216

Name _____

Notes:

- Choose the best answer
- You have 5 minutes to solve out this quiz
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1. One of the following sentences is **not** true, choose the appropriate
 - a. When a regressor is added to a model the adjusted R^2 can get lower
 - b. When a regressor is added to a model the R^2 can not get lower
 - c. When a regressor is added to a model the adjusted R^2 can not get higher
 - d. None of the above

Answer c

2. A good estimator for β is

- a. $\beta = [X^T X]^{-1} X^T Y$
- b. $\beta = [X^T X] X^T Y$
- c. $\beta = [XX^T] X^T Y$
- d. None of the above

Answer d

3. One of the following is a Gauss-Markov assumption (in matrix form)

- a. $Y = X + \varepsilon$
- b. $E[\varepsilon_i] = 0$
- c. $E[\varepsilon\varepsilon^T] = cI$
- d. $E[\varepsilon\varepsilon^T] = 0$

Answer c

4. One of the following sentences is true, choose the appropriate
 - a. The type I error occurs when we reject a true null hypothesis
 - b. The type II error occurs when we reject a true null hypothesis
 - c. The type I error occurs when we reject a null hypothesis
 - d. The type II error occurs when we fail to reject a false null hypothesis

Answer d or a

5. In the model $S_i = \beta_0 + \beta_1 I_i + \beta_2 I_i M_i$, where $I_i = X_{1i}$ and $I_i M_i = X_{2i}$, the variable X_{2i} is called:

- a. Interaction term, because in this model the change in $E(S_i)$ resulting from a change in I_i depends on M_i , and not vice versa.

- b. Binary variable, because in this model the change in $E(S_i)$ resulting from a change in I_i depends on M_i , and vice versa.
- c. Interaction term, because in this model the change in $E(S_i)$ resulting from a change in M_i depends on I_i and vice versa.
- d. None of the above

Answer c