Quiz 6: Time Series Analysis

Name: _____ Grade: ___/5

1. Which of the following is a defining characteristic of time series data?

    a. Observations are collected from different units at the same time point.
    b. Observations are collected from the same unit at different time points.
    c. Observations are collected from different units at different time points.
    d. Observations are collected randomly without any time consideration.

2. The chapter recommends aggregating data to a lower frequency when:

    a. The time series frequencies of the dependent and independent variables are different.
    b. There are too many data points, making analysis computationally expensive.
    c. The data exhibits high levels of noise.
    d. The research question requires a long-term perspective.

3. Which of the following is an example of seasonality in time series data?

    a. A gradual increase in average temperature over several decades
    b. A sudden spike in stock prices due to unexpected news
    c. Higher sales of ice cream during the summer months
    d. A long-term decline in the value of a currency

4. Why is it important to understand trends and seasonality in time series data before conducting regression analysis?

    a. They can introduce spurious correlations between variables.
    b. They improve the accuracy of regression coefficient estimates.
    c. They simplify the interpretation of regression results.
    d. They are required assumptions for most regression models.

5. What does stationarity mean in the context of time series data?

    a. The variable has a constant mean, variance, and autocorrelation structure over time.
    b. The variable exhibits a clear upward or downward trend.
    c. The variable follows a repeating pattern at regular intervals.
    d. The variable is independent of its past values.

6. What is a spurious regression?

    a. A regression that shows a statistically significant relationship between variables that are not truly related.
    b. A regression that fails to meet the assumptions of linearity and normality.
    c. A regression that includes too many irrelevant variables.
    d. A regression that uses data with measurement errors.