

1. **Which of the following describes the condition under which the Mann-Kendall test is applied without assumptions of normality?**
- A) When the data has serial correlation
 - B) When the data follows a log-normal distribution
 - C) When the central value or median changes over time
 - D) When the time series is linear with a constant variance

Answer: C) When the central value or median changes over time

2. **What is the primary advantage of using nonparametric methods like the Mann-Kendall test over OLS regression in trend analysis?**
- A) Higher sensitivity to outliers
 - B) Assumption of linearity in the relationship between variables
 - C) Independence from assumptions about the distribution of residuals
 - D) Requirement for a larger sample size

Answer: C) Independence from assumptions about the distribution of residuals

3. **In the context of trend tests, what is a key reason for incorporating exogenous variables into the analysis?**
- A) To increase the complexity of the model
 - B) To explain a substantial part of the variance of the response variable
 - C) To ensure the normality of residuals
 - D) To minimize the number of variables in the model

Answer: B) To explain a substantial part of the variance of the response variable

4. **Which of the following best describes the Theil-Sen estimator in the context of trend analysis?**
- A) It minimizes the sum of squared residuals
 - B) It calculates the mean slope of all data points
 - C) It is robust to outliers and uses the median of slopes between all pairs of points
 - D) It assumes residuals are normally distributed and have constant variance

Answer: C) It is robust to outliers and uses the median of slopes between all pairs of points

5. **Which approach should be used when the number of analyses required makes detailed case-by-case checking of assumptions impractical?**
- A) Ordinary Least Squares Regression
 - B) Nonparametric procedures
 - C) Polynomial regression
 - D) Simple average method

Answer: B) Nonparametric procedures