Name	
Roll Number	2024-45-001
No. of Sheets	

KERALA AGRICULTURAL UNIVERSITY

College of Cooperation Banking and Management

BSc (Hons.) Co-operation and Banking

Mid Term Examination - February 2026

Max. Marks: 20 | **Basic Econometrics (1+1)** | **Time: 45 Minutes**

Batch : 2025 | **Course Code : Econ 3209**

Instructions:

- Answer all questions to Part-A in the provided answer sheet.
- Submit the Answers to Part-A before attemptiing Part-B.
- Calculator and statistical tables are allowed.
- Rough sheets used should be attached at the end of the Question Paper.
- Excel sheets should be mailed back to the instructor after the exam ends.

Part - A

I Fill in the blanks **10*1 = 10 Marks**

1. In the classical linear regression model, the error terms are assumed to have _____ mean and _____ variance.
2. The _____ estimator is used when errors are correlated and/or have non-constant variance.
3. When the variance of error terms is not constant across observations, we have the problem of _____.
4. In hypothesis testing, a _____ error occurs when we reject a true null hypothesis.
5. The _____ shows the percentage of variation in the dependent variable explained by the independent variables.
6. _____ transformation is used to estimate the Cobb-Douglas production function?
7. The _____ coefficient measures the strength and direction of linear relationship between two variables.
8. The method of _____ is used to estimate parameters in a linear regression model to minimize the sum of squared residuals.
9. The _____ statistic is used to test the overall significance of a regression model.
10. The _____ transformation is used to address non-linearity in regression models (e.g., log, square root).

II True or False **5*1 = 5 Marks**

1. Weighted Least Squares is used when the error variance is not constant across observations.
2. In OLS estimation, the sum of residuals is always equal to zero.
3. A high R-squared value always indicates that the regression model is good.
4. Autocorrelation in error terms violates the assumption of independence in classical linear regression.
5. The coefficient of determination (R^2) can have negative values in linear regression.

Part - B

III Practical **15 Marks**

Each of you has been provided with a personalized dataset (CSV file) containing 30 observations of wage and educ. Using this data, answer the following:

Dataset: data_2024-45-001.csv

1. Specify the econometric model that can be estimated.
2. Write down the normal equations and solve for α and β.
3. Calculate and report the estimated values of α, β, and R^2.
4. Write a brief interpretation of the estimated model.

Attach your calculations and interpretation in the answer sheet.

Answer Sheet

Fill in the Blanks

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

True or False

1.
2.
3.
4.
5.

.....