



Registration Number:  
Date & session:

**ST. JOSEPH'S UNIVERSITY, BENGALURU -27**  
**BCA (DATA ANALYTICS) – III SEMESTER**  
**SEMESTER EXAMINATION: OCTOBER 2023**  
**(Examination Conducted in November/December 2023)**  
**BCADA 3222 – ECONOMETRICS**  
**(For current batch students only)**

**Part A**

**Answer All Questions**

**5 X 2 =10**

- 1 State the formula for Coefficient of determination. 2
- 2 Elaborate and explain RSS. 2
- 3 What are the different types of regression according to their functionality? 2
- 4 State the goodness of fit. 2
- 5 What is autocorrelation? 2

**Part B**

**Answer any 5 questions**

**5 X 4 =20**

- 6 What are the aims and methodologies of Econometrics? 4
- 7 Explain the consequences and detection of autocorrelation. 4
- 8 Why do we need dummy variable in a regression model? 4
- 9 Explain the Interpretation of multiple regression coefficients. 4
- 10 Discuss about the least squares estimation. 4
- 11 What are the types of variable transformations? 4
- 12 What is the Simultaneity Bias or Bias problem? Why and how does it occur? 4

**Part C**

**Answer Any 3 questions**

**3 X 10 = 30**

- 13(a) Distinguish between correlation and regression. 5
- 13(b) Explain Gauss-Markov theorem. 5
- 14(a) Finding the regression coefficients for both the coefficients- 5

X	43	21	25	40	57	59
Y	99	60	79	75	87	81

- 14(b) What are the Standard error(SER) for both the coefficients for the above question. 5

- 15 Consider the following system of equations-

$$y_2 = 2y_2 + 3x_2 + 5x_3 + u_1$$

$$y_3 = 3y_3 + 1x_1 + 4x_2 + u_2$$

$$y_3 = 1y_1 + 2x_1 + u_3$$

According to the condition, specify the identification of the first equation.

10

- 16 When multicollinearity is perfect in a regression model what happens to the regression coefficients of the explanatory variables?

10

