**ST JOSEPH’S UNIVERSITY, BENGALURU -27**

Registration Number:

Date & session:

**M.A (Economics) – I SEMESTER**

**SEMESTER EXAMINATION: OCTOBER 2023**

**(Examination conducted in November /December 2023)**

**EC 9421 – Basic Econometrics**

**(For current batch students only)**

**Time: 2 Hours Max Marks: 50**

**This paper contains 2 printed page and 3 parts**

**PART-A (Answer any five) [2 marks each, 2x5=10]**

1. State two desirable properties of the Ordinary Least Square estimator.
2. What is the difference between an estimator and an estimate? Explain in the context of the simple regression model:

1. Consider the following regression line: Predicted GPA = 698.9 – 2.28 × Attendance. You are told that the t-statistic on the slope coefficient is -4.38. What is the standard error of the slope coefficient?
2. Briefly explain the joint-test or the compound test?
3. For a regression model, the Explanatory Sum of Squares is 5 while the Residual Sum of Squares is 12. Calculate .
4. What is the interpretation of for this model: ?
5. Re-formulate the following equation to be linear in parameters: .

**PART-B (Answer any two) [5 marks each, 5x2=10]**

1. In this regression how do we test ? Describe the general process including what distribution and test statistic to be used (You don’t need t-tables).
2. Discuss multicollinearity.
3. One way to interpret the coefficient of the explanatory variable in the case of a multiple linear regression model is the “partialing-out” interpretation. Explain.

**PART-C (Answer any two) [15 marks each, 15x2=30]**

1. Describe the Chow test which can be used in case you are considering splitting your data in 2 subsamples or not. Recall that it is a variant of the F test with the general form of

F =

1. What is heteroscedasticity? Suggest possible remedies both when the form of heteroscedasticity is unknown as well as when it is known.
2. What is autocorrelation or serial correlation? A popular test for auto-correlation is the Durbin Watson (DW) test. The DW statistic is given by . Give the intuition why d=2 supports no auto-correlation?