

SHIVAJI COLLEGE, UNIVERSITY OF DELHI

DEPARTMENT OF ECONOMICS

PRACTICAL TEST (Academic Year 2023-24)

Name of the Course : B.A.(H) Economics Semester: ...4..
Name of the Paper : Introductory Econometrics Faculty Name : Nikita Gupta
Duration : 3 hours Maximum Marks: 20
Date of Test : 14.05.2024

Answer the following questions based on the analysis done in R (clearing writing the obtained statistic and p-values).

Q1 A researcher wants to study the variations in insurance charges among females. Create the following dataset for the 6 females in R:

Age (in years)	BMI (kg/m ²)	Insurance Charges (Rs. per year)
19	27	16884
28	33	4449
33	22	21984
46	34	8240
18	24	1837
31	26	3756

- Identify the dependent and independent variables.
- Create a scatter plot of the dependent variable with respect to each of the independent variable. Comment on the observed relationship.
- Fit a linear regression model. Interpret the intercept and comment on its statistical significance.
- Interpret the slope coefficients and comment on its statistical significance.
- Is the model jointly significant? What is R-squared value?
- Run a log-linear model. Interpret the slope coefficients.
- Can you compare the two regression models? Why or why not?
- What is correlation between the **two independent** variables? What does that imply? (using correlation matrix for multi-collinearity)
- What are the VIF value of the variables?
- Does your model exhibit homoscedasticity? Comment on the basis of White's test.

Nikita