

SHIVAJI COLLEGE, UNIVERSITY OF DELHI
DEPARTMENT OF ECONOMICS
INTERNAL TEST (Academic Year 2023-24)

Name of the Course : B.A.(P) Semester: ...4..
Name of the Paper : Basic Econometrics Faculty Name : Nikita Gupta
Duration : 50 minutes Maximum Marks: 15
Date of Test : 03.05.2024

Q1 a) State whether the following are true or false. Give reasons. (4+7)

- i) We can compare log-linear and linear model with the help of R^2 .
- ii) For including m categories of a qualitative variable, we need to introduce m dummy variables in the regression equation.

b) Data was collected on 344 corporate executives to find out the effect of MBA degree and work experience on their salary. The following model was estimated:

$$Y_i = 2.3501 + 3.6306D_{1i} - 2.6354D_{2i} + 0.8527X_i + 1.634(D_1 * X)_i$$
$$t = (1.263) \quad (2.1805) \quad (-3.457) \quad (7.605) \quad (2.98)$$
$$R^2 = 0.8968$$

Y: Annual Income in Lakhs of Rupees

D_1 and D_2 are MBA and gender dummies respectively

X: Work experience in years

$D_1 = 1$ if one has MBA degree
= 0 otherwise

$D_2 = 1$ for a female executive
= 0 for a male executive

- i. Write the regression equations for female MBA executives and male MBA executives separately.
- ii. Find the mean income level for the reference category and interpret it.
- iii. Test the statistical significance of differential intercept coefficient between female MBA executives and Male MBA executives at 5% level of significance.
- iv. Interpret the coefficient of $D_1 * X_i$.

Q2 $\ln \hat{Y}_i = -5.1 + 0.02 X_i$

$$n=28 \quad R^2 = 0.48 \quad \bar{X} = 10 \quad \bar{Y} = 100$$

- a) Interpret b_1 and b_2 .
- b) Find elasticity of Y w.r.t. X. (2+2)



Faculty Signature: Nikita Gupta