

2017

Time : 3 hours

Full Marks : 70

*Candidates are required to give their answers in
their own words as far as practicable.*

The figures in the margin indicate full marks.

Answer from both the Sections.

Section – A

(Short-answer Type Questions)

Answer any **four** questions : $10 \times 4 = 40$

1. Explain how econometrics is related to :
 - (a) Economic theory
 - (b) Mathematical statistics
2. Distinguish between type I and II errors. Is there a trade off between the two types of errors ? Explain.

3. Explain the desirable properties of estimators.
4. What are the reasons for heterosticity problem to occur ?
5. What are dummy variables ? Explain their types.
6. In the regression model $Y_i = \alpha + \beta X_i + U_i$, find the least square estimates of α and β .

Section – B

(Long-answer Type Questions)

Answer any **two** questions : 15×2 = 30

7. Explain the Goldfeld-Quandt test for detection of present heteroscedastic disturbance term.
8. State and prove Gauss-Markov theorem.
9. Show that $r^2 = \frac{(\sum x_i y_i)^2}{(\sum x_i^2)(\sum y_i^2)}$.
10. Write short notes on the following :
 - (a) Power of a test
 - (b) Chi-square distribution

