

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

SECOND YEAR [BATCH 2016-19]

B.A./B.Sc. FOURTH SEMESTER (January – June) 2018

Mid-Semester Examination, March 2018

Date : 14/03/2018

Time : 2 pm – 4 pm

ECONOMICS (Honours)

Paper : IV

Full Marks : 50

[Use a separate Answer Book for each group]

Group – A

1. Answer the following questions : [5×2]
 - a) Explain the concept of market failure. Discuss its causes.
 - b) Discuss—
 - i) Tragedy of the Commons [2·5]
 - ii) Public good [2·5]
2. Answer **any one** question : [1×15]
 - a)
 - i) “Lewis model is not a neoclassical model rather it is a classical model.” —Discuss. [10]
 - ii) Discuss the context in which Lewis model has emerged. [5]
 - b)
 - i) What is the incentive problem in a contract? How is it related to the conflict with insurance and the time frame of a contract, particularly in the context of rural land market? [5]
 - ii) How do you think the ‘lack of enforcement’ problem can be solved in the larger context of rural land, labour and capital market? [5]
 - iii) Illustrate the insurance problem associated with the land rentals. [5]

Group – B

1. A tabular ANOVA representation based on the relationship between Y (dependent) & X (independent) gives the following :

SS	Value	df
ESS	5,602	1
RSS	698	10
TSS	6300	11

,where ESS = Explained Sum of Squares, RSS = Residual Sum of Squares & TSS = Total SS.

Test the hypothesis that there is no relationship between Y & X in the proposed regression.

[Note, at 5% level of significance, $F_{1,10} = 4.96$, $F_{1,11} = 4.84$ & $F_{10,11} = 2.85$] [5]

2. Answer **any two** of the following : [2×10]
 - a) Formulate a two-variable population regression model without the intercept term. How would you estimate the slope parameter of such a model? Explain as to what will be your R^2 formula to assess the goodness of fit of the estimated model. [2+4+4]

b) You obtained the following regression result.

$$\hat{Y}_i = 50 - 2978.5 X_i, r^2 = 0.6149$$

(629.3)

(The figure in the bracket is the standard error)

i) Find out the sample size (n) underlying the result. [4]

ii) Derive the formula you used in coming up with the sample size. [6]

c) i) “One should exercise great caution in using historical regression line to predict $E(Y | X_0)$ or Y_0 associated with a given X_0 that is far removed from the sample mean $\bar{X}$.” Justify this statement by looking at the confidence limits of both $E(Y | X_0)$ & Y_0 . [7]

ii) Food expenditure is regressed on the log of total expenditure, giving rise to the following estimated lin-log model :

$$\text{Food Exp}_i = -1283 + 257 \ln \text{Total Exp}_i$$

Both Food Exp_i & Total Exp_i are measured in rupees.

What change, on an average, in the expenditure on food would be, for 1% increase in the total expenditure? [3]

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