

THIRD SEMESTER B.A. DEGREE EXAMINATION, NOVEMBER 2014

(U.G.—CCSS)

Core Course—Economics

EC 3B 03—QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS—I

(2013 Admissions)

Time : Three Hours

Maximum : 30 Weightage

*Answers may be written **either** in English **or** in Malayalam.*

Part A

*Answer all **twelve** questions.*

1. When a variable assumes all values between a range of values, it is called :
(a) Discrete variable. (b) Random variable.
(c) Continuous variable.
2. When data are arranged for a number of years it is known as :
(a) Time series data. (b) Cross-section data.
(c) Polled data.
3. When x and y are two different positive numbers the relationship between Arithmetic Mean (AM) and Geometric Mean (GM) is given by :
(a) AM is more than GM. (b) **AM is less than GM.**
(c) AM is equal to GM.
4. Pearson's correlation coefficient measures ——— relationship between variables.
(a) Linear. (b) Curvi-linear.
(c) Both linear and non-linear.
5. When P is the price and Q the quantity demanded of a normal good, the correlation coefficient between P and Q is expected to be
(a) Negative. (b) Positive.
(c) Zero.

6. The relationship between arrival of birds in a particular locality and the number of newly born babies in the same locality is an example of :
- (a) Rank correlation. (b) Non-sense correlation.
(c) Linear correlation.

7. When L, P and F are respectively the Laspeyre's, Paasche's and Fischer's index numbers, the relationship among them is given by :

- (a) $F = AM$ of L and P. (b) $F = GM$ of L and P.
(c) $F = HM$ of L and P.

Where AM, GM and HM respectively stand for Arithmetic mean, Geometric mean and Harmonic mean.

8. The official index of inflation in India is constructed by using :

- (a) Wholesale prices. (b) Retail prices.
(c) Agricultural prices.

9. In the trend equation $y = a + bT$, where T is time, which of the following is an indicator of trend?

- (a) T. (b) a.
(c) b.

10. A regression model that takes explicit account of random variable is known as :

- (a) Stochastic model. (b) Deterministic model.
(c) Markov model.

11. Which of the following is not an assumption of Classical Linear Regression model ?

- (a) Heteroscedasticity. (b) No serial correlation.
(c) Normally distributed errors.

12. Who among the following coined the term econometrics ?

- (a) Lawrence R Klien. (b) Ragnar Nurkse.
(c) Ragnar Frisch.

(12 x $\frac{1}{4}$ = 3 weightage)

Part B (Short Answer Type Questions)

*Answer **all** questions.*

Each question carries 1 weightage.

13. Explain briefly the functions of statistics.
14. Distinguish between population and sample.
15. What is the use of scatter diagram ? Explain.
16. Distinguish between Pearson's and **Spearman's** correlation coefficient.
17. What are the different measures of index number ?
18. Explain briefly the components of time series.
19. What do you mean by deflating ?
20. What is a moving average ?
21. Distinguish between population regression and sample regression function.

(9 x 1 = 9 weightage)

Part C (Short Essay/Paragraph Type Questions)

*Answer any **five** questions out of seven.*

Each question carries 2 weightage.

22. Write a note on the limitations of statistics.
23. Explain the requisites of a good average.
24. What are the properties of coefficient of correlation ? Explain.
25. Briefly explain the problems involved in the construction of index numbers.
26. Explain various tests of Index numbers.
27. What are the uses of regression analysis ? Explain.
28. Explain the assumptions of Classical Linear Regression Model.

(5 x 2 = 10 weightage)

Part D (Essay Questions)

Answer any two questions out of three.

*Each question carries **4** weightage.*

29. Compute the coefficient of variation of numbers from **1** to 10.

Turn over

30. The following table supplies the wages earned by labourers in two regions :

Wages (in Rupees) : 108 110 112 115 120 130 135 140 150 200

No. of Labourers in area A : 12 15 16 17 20 22 18 14 16 10

No. of Labourers in area B : 20 15 18 14 16 20 22 20 25 10

Draw Lawrence curve for the above data. Interpret the curve.

31. Explain how a linear trend line is fitted using a simple mathematical model.

(2 x 4 = 8 weightage)