Bachelor of Arts (B.A.) Part—II (Semester—III) Examination

STATISTICS

(Economic Statistics)

Optional Paper—2

Time : Three Hours] [Maximum Marks : 50

N.B. :— All questions are compulsory and carry equal marks.

1. (A) Explain the concept of an index number. Why index number is called as an economic barometer ? State its uses.

   (B) Explain the first five steps in the construction of an index number. 5+5

OR

   (E) What are chain indices ? Explain the construction of chain indices. Distinguish between chain-base indices and fixed-base indices.

   (F) Explain time reversal test and factor reversal test. Show that Fisher's ideal index number satisfies time reversal test and factor reversal test. 5+5

2. (A) What is meant by base shifting ? Why is its purpose ? Explain spilicing of index numbers.

   (B) Explain the concept of cost of living index number. Describe the two methods of construction of cost of living index number. 5+5

OR

   (E) State any two uses of cost of living index number.

   (F) Define index of industrial production. Write its uses.

   (G) Explain the concepts of purchasing power of money and inflation.

   (H) Explain any two methods of computation of national income. 2½×4=10

3. (A) State demand and supply function. Explain laws of demand and supply. Explain the concept of equilibrium price. Describe the concepts of price elasticity of demand and price elasticity of supply. Interpret them. 10

OR

   (E) Explain income and cross elasticity of demand.

   (F) State Engel's Law. Define Engel's Curve.

   (G) State Pareto's Law of income distribution. Explain the terms used in Pareto's function.

   (H) If the demand functions of two commodities A_1 and A_2 are respectively given by

   $$x_1 = p_1^{-1.3}\, p_2^{0.5},\ x_2 = p_1^{0.3}\, p_2^{-0.5}$$

   check whether the two commodities are complementary **or** substitutes. Hence find the two cross price elasticities of demand. 2½×4=10

4. (A) Define economic time series. State its different components. Explain additive and multiplicative models for time series data. State the uses of time-series analysis. Explain the least square method of determination of trend. 10

OR

(E) Explain Leontief's method of estimating elasticity from time series data.

(F) Explain ratio to trend method and ratio to moving average method of studying seasonal variation in time series.

(G) State the merits and demerits of these two methods.

(H) Explain Pigou's method of estimating elasticity from time series data. 2½×4=10

5. Solve any **TEN** questions from the following :—

(A) Define Value index number.

(B) Which measure of central tendency is more appropriate in the construction of index number ?

(C) State the formula of an index number that has an upward bias.

(D) The demand and supply curves of a commodity are given by $D = 19 - 3p - p^2$ and $S = 5p - 1$ respectively. Find an equilibrium price.

(E) Define Giffen's good.

(F) Define Ginni's Concentration ratio.

(G) Which organization compiles WPI ?

(H) Differentiate between inflation and deflation.

(I) Choose the correct alternative and rewrite the sentence.

In India, WPI is compiled (a) weekly, (b) monthly, (c) yearly.

(J) Give examples of time-series data where irregular component is more prominent.

(K) Define a moving average of period K in time series data.

(L) State the assumption made in the simple average method of obtaining seasonal indices. 1×10=10