**
ST. JOSEPH’S COLLEGE (AUTONOMOUS), BANGALORE-27**

DATE: 22-4-19

B.Sc. STATISTICS - VI SEMESTER

SEMESTER EXAMINATION - APRIL 2019

**ST 6115: APPLIED STATISTICS**

**Supplementary candidates only.**

**Attach the question paper with the answer booklet**

**Time: 2 ½ Hours Max:70 Marks**

This question paper has **TWO** printed pages and **THREE** parts.

**PART – A**

**I Answer any FIVE of the following: 5 x 3 = 15**

1. What is curve of Concentration (Lorenz Curve)?
2. Show that Fisher’s index number is geometric mean of Paasche’s and Laspeyre’s index numbers
3. Define Net Reproductive Rate (NRR) and Gross Reproductive Rate (GRR).
4. Explain normalized score.
5. Write a note on randomized control studies
6. Discuss on different models used in time series analysis
7. What do you mean by equilibrium price?

 **PART-B**

**II Answer any FIVE of the following: 5 x 7 = 35**

1. A) Explain any two measures of fertility rates (4)

 B) Define retrospective studies. (3)

1. A)Define Vital Index (2)

B)Write a note on cost of living index number. (3)

C) What is Giffen’s paradox? (2)

1. A) How do you calculate Body Mass Index (BMI)? (3)

B) State Engel’s law and Engel’s curve (4)

1. A) Write down the formula for Dorbish-Bowley quantity index number (2)

B)Discuss about construction of index numbers using price relatives (5)

1. A) Explain Time Reversal Test and Factor reversal test (4)

B)Explain “Business Cycle” with neat diagram (3)

1. A) Discuss about various components in time series data. (3)

B) Explain the method of moving averages and mention two demerits. (5)

1. A) Write a note on estimating demand functions? (3)

B) Define receiver operating characteristic(ROC) curve? How is it useful? (4)

**PART-C**

**III Answer any TWO of the following: 2 x 10 = 20**

1. A) Explain methods of obtaining Vital Statistics (3)

 B) What is Educational Quotient (EQ)? (2)

 C) Explain the construction of scaling of rankings in terms of normal curve (5)

1. A) Differentiate between Sensitivity and Specificity (3)

 B) Explain Pigou’s method of estimating elasticity from time series data (7)

 17. A)Explain different components of life table (5)

 B) Explain the steps involved in calculating T-scores for given frequency distribution (5)

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