

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – STATISTICS

FIFTH SEMESTER – NOVEMBER 2015

ST 5506/ST 5502 - APPLIED STATISTICS

Date : 25/09/2015

Dept. No.

Max. : 100 Marks

Time : 01:00-04:00

PART – A

Answer ALL the questions:

(10 X 2 = 20)

1. What is meant by Index number?
2. Explain Deflating of index numbers.
3. State any two merits of moving average method.
4. Explain additive model in time series.
5. Define vital statistics.
6. Explain crude birth rate.
7. Define partial correlation.
8. State any two properties of multiple correlation.
9. Define population census.
10. Write the applications of forest statistics.

PART – B

Answer any FIVE questions:

(5 X 8 = 40)

11. Explain the construction of index numbers with illustration.
12. Define Fisher's index number. Why it is called 'Ideal'?
13. Explain the components of time series.
14. Describe moving average method.
15. Explain any two methods of obtaining vital statistics.
16. Describe specific fertility rate and total fertility rate.
17. In a trivariate distribution, $\sigma_1 = 2$, $\sigma_2 = \sigma_3 = 3$, $r_{12} = 0.7$, $r_{23} = r_{31} = 0.5$, find $b_{12.3}$.
18. Explain De- Facto and De-Jure method.

PART – C

Answer any TWO questions:

(2 X 20 = 40)

19. (a) Explain the optimum tests for index numbers and show that an index number which satisfies both the tests.
(b) Describe consumer price index number. Also write the methods of construction of the price index number.
20. (a) Fit a straight line trend by the method of least squares to the following data.

Years	1970	1971	1972	1973	1974	1975	1976
Profits	80	90	92	83	94	99	92
(in thousand rupees)							

(b) Explain Ratio-to-trend method. Also write its advantages.

21. (a) Explain direct and indirect method of standardization.

(b) Describe Gross reproduction rate and net reproduction rate.

22. (a) Distinguish between partial and multiple correlation coefficients. Also state the properties of multiple correlation coefficient.

(b) Explain the following (i) write a detailed note on NSSO and (ii) Agricultural statistics.

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