

**CORE COURSE - II (CC):
STATISTICAL APPLICATIONS ON ENVIRONMENTAL SCIENCES**

UNIT1:

Graphical representation of statistical data - Bar diagram, pie diagram, histogram, frequency polygon, frequency curve, O gives –less than and greater than. Measures of central tendency - mean, median and mode - measures of dispersion - range, quartile, mean deviation, standard deviation.

UNIT 2:

Measures of skewness and kurtosis and coefficient of variation - simple problems only - correlation (Karl Pearson's coefficient of correlation - simple problems), regression.

UNIT 3:

Probability theory - definition of probability - events - rules of probability (addition and multiplication rules only) - compound probability - baye;s theorem - theoretical distributions - binomial poisson and normal (statements only) - with simple application problems.

UNIT 4

Sampling theory – types of sampling –Data collection – primary and secondary-testing of hypothesis using normal and student - t distributions.

UNIT 5:

Chi-square test and ANOVA - Application to environmental studies. Simple problems only

References:

1. Amble V.N. 1975. Statistical methods in Animal Sciences. Indian Society of Agricultural Statistics, New Delhi.
2. Bailey, N.T.J. Statistical methods in Biology, The English Universities Press Ltd., U.K.
3. Fisher R.A. and Yates E. 1963, Statistical table for Biological Agricultural and Medical Research, Oliver and Boyd, London.
4. Gupta. Statistical Analysis
5. Kandasamy,P, K. Thilagavathi and K. Gnanavathi,Engineering Mathematics. Chand and Co Ltd., New Delhi.
6. Krebs, C. 1989. Ecological methodology .Academic press, London.
7. Ludwig, J.A. & Reynolds, J.F. 1988. Statistical Ecology – A primer on methods and computing. John-Wiley & sons. New York.
8. Miller, J. 1996. Statistics for advanced level. 2nd Edition. Cambridge University Press (Low price edition). Pp. 442.
9. Naveedam. Teach your self Statistics
10. Sivadhanupillai. Statistical Analysis
11. Venkatraman,M.K. Engineering Mathematics Vol. I & II. The National Publishing Co.