

MANGALORE UNIVERSITY
DEPARTMENT OF BIOSCIENCES
M.Sc. ENVIRONMENTAL SCIENCE

ESP 555 ENVIRONMENTAL CONSERVATION AND MANAGEMENT LAB

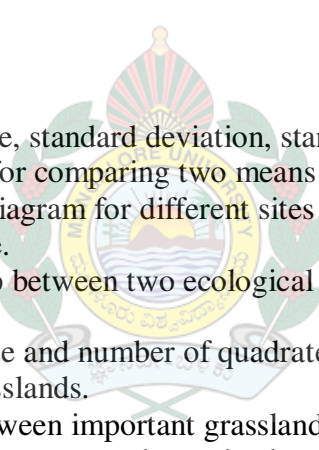
Course Outcomes:

CO1 Describe the method of applying statistics to ecological data.

CO2 Study different diversity indices.

CO3 Explain the method of different soil quality testing.

CO4 Estimate and discuss the level of chlorophyll content in fumigated and unfumigated plant leaves.

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1. To calculate mean, variance, standard deviation, standard error, coefficient of variation and to use-t-test for comparing two means related to ecological data.
 2. To prepare ombrothermic diagram for different sites on the basis of given data set and to comment on climate.
 3. To find out the relationship between two ecological variables using correlation and regression analysis.
 4. To determine minimum size and number of quadrates required for reliable estimate of biomass in grasslands.
 5. To find out association between important grassland species using Chi-square test.
 6. To compare protected and unprotected grassland stands using community coefficients (similarity indices)
 7. To analyse plant communities using Bra-Curtis ordination method.
 8. To determine diversity indices (Shannon-Wiener, concentration of dominance, species richness, equitability and B-diversity) for protected and unprotected grassland stands.
 9. To estimate IVI of the species in a woodland using point centered quarter method.
 10. To determine gross and net phytoplankton productivity by light and dark bottle method.
 11. To determine soil moisture content, porosity and bulk density of soil collected from varying depths at different locations.
 12. To determine the water holding capacity of soils collected from different locations.
 13. To determine percent organic carbon and organic matter in the soils of cropland, grassland and forest.
 14. To estimate the dissolved oxygen content in eutrophic and oligotrophic water samples by azide modification of Winkler's method.
 15. To estimate the chlorophyll content in SO₂ fumigated and unfumigated plant leaves