

OLLSCOIL NA hÉIREANN, GAILLIMH
THE NATIONAL UNIVERSITY OF IRELAND, GALWAY

SUMMER EXAMINATIONS 2000

**Master's Degree /Diploma in Rural Development
First Year Examination**

**FIFTH PAPER (MS540)
TECHNIQUES OF ANALYSIS**

Professor John Bryden, Ph.D., B.Sc.
Professor Michael P. Cuddy, M.Agr.Sc., Ph.D.
Professor Michael J. Keane, B. A., M.Econ.Sc., Ph.D.
Dr. Leo Smyth, B.A., Dip. Psych., M.Psych., D. Univ.
Mr. Eoghan Garvey, M.A.
Dr. Tony Varley, M.A., Ph.D.

Time allowed: TWO hours.

THREE questions to be answered. Use separate answer books for each question.

1. "The challenge for a multi-functional (or multi-constituency) group is to use the insights of individuals while at the same time developing an organisation-wide view: both are needed." Explain the meaning of this statement showing how a group must develop dual identity in its members.
2. Identify and discuss some of the principal issues relating to sampling, questionnaire design, data management and the presentation of data.
3. Consider the principal issues that must be addressed in conducting social surveys.
4.
 - (a) What do you understand by the term 'mean'?
 - (b) What do you understand by the term 'confidence intervals'?
 - (c) t tests are used principally to test equality of what?
 - (d) If a t value turns out to be higher than the critical t value, what does that imply?
 - (e) What is a frequency distribution?
 - (f) What do you understand by the term 'median'?
 - (g) What do you understand by the term '90th percentile'?

5. Annual salaries (in thousands of pounds) for 10 top executives are as follows:
45 60 95 56 80 95 100 67 89 154
- (a) Calculate the sample mean and sample median.
 - (b) Which statistic is more representative in this case, and why?
 - (c) Draw a histogram with 3 classes
 - (d) If the salaries for the same 10 executives (in the same order) the previous year were:
42 50 80 67 90 95 105 60 80 125
then draw a scattergram connecting the salaries for the two years.
 - (e) Would you expect a positive or negative covariance (or correlation coefficient) between the two series? How is this reflected in the scattergram?