

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

SUMMER EXAMINATIONS, 1999/2000

M.B.S. DEGREE EXAMINATION

RESEARCH METHODOLOGY

Professor P. Willman

Professor R. Green

Mr. M. Moroney

Time allowed: **THREE** hours

Please attempt **THREE** questions. All students must attempt **Question 1** in Part A, in addition to **ONE** question in Part B and **ONE** question in Part C.

Please use **separate answer books for each question.**

PART A

1. The Chief Executive Officer of Daily Grind plc suspects that most of the 5,000 male and female employees in her company are somewhat alienated from work. She also suspects that those who are most involved (less alienated) are also the ones who are more satisfied with their work lives.

Assignment:

Outline what research you believe is required and how it should be undertaken. Your design should include the following:

- a) Overall research design proposal
- b) Operational definitions of key variables
- c) Sampling design (if appropriate)
- d) Outline design of questionnaire

(50% of Total Marks)

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contd./**

PART B

2. Answer parts a) and b) below:

- a) A medical inspector desires to estimate the overall average monthly occupancy rates of the cancer wards in eighty different hospitals that are evenly located in the north-western, south-eastern, central and southern suburbs of New York City. Advise the medical inspector on the most appropriate sampling design to use in both of the following situations:
- i) There is wide variation in the number of cancer cases in each of the boroughs.
 - ii) There is no variation in the number of cancer cases in each of the boroughs.

Note: In both situations, budget constraints mean that one-stage sampling is not economically feasible.

- b) Indicate whether the following measures are nominal, ordinal, interval or ratio scales:
- i) Prices on the stock market
 - ii) Marital status, classified as “married” or “never married”
 - iii) Whether a respondent has ever been unemployed
 - iv) Professorial rank: assistant professor, associate professor or professor
 - v) Grades: A, B, C, D or F
 - vi) An index of the hardness of steel alloys

(25% of Total Marks)

3. Answer parts a) and b) below:

- a) You have been asked to design an experiment to show if a proposed course of action is likely to increase the total of a bank's transactions with its customers (the bank has 90 branches in major population centres in Ireland). The course of action proposed is to offer discounts of either 10% or 20% for specific products, for example, hi-fi equipment, computer games and clothes on purchases at stated major retailing outlets. It is also believed that the sensitivity of customers to such promotions depends on their level of income (high, medium or low).
- i) Name and outline the experimental method you would use.
 - ii) Describe how you would measure effects.

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- b) For each of the following situations, indicate whether the research should be exploratory, descriptive or causal. Provide a brief justification for your answer (one sentence is sufficient in each case).
- i) Establishing the functional relationship between advertising and sales
 - ii) Investigating consumer reactions to the idea of a new laundry detergent that prevents shrinkage in hot water
 - iii) Identifying target market demographics for a shopping centre
 - iv) Estimating sales potential for concrete silos in a north-western sales territory

(25% of Total Marks)

PART C

4. Answer parts a) and b) below:

- a) Briefly outline under what conditions are observation studies most appropriate.
- b) Discuss the advantages and disadvantages of observation studies relative to surveys.

(25% of Total Marks)

5. Answer parts a) and b) below:

- a) Discuss the differences between validity and reliability.
- b) Education is often used as an indicator of a person's socio-economic status. Historically, the number of years of schooling completed has been recorded in the Census of Population as a measure of education. Critics say that this measure is no longer accurate as a measure of education. Discuss.

(25% of Total Marks)