Bedford College

UNIVERSITY OF LONDON

B. A. Examination 1984

S302 RESEARCH METHODS IN NURSING

Time allowed - 3 hours

Answer FOUR questions - TWO from EACH section

Tables of four figure logarithms and basic formulae printed on a separate sheet will be supplied. Slide rules and hand held, battery operated, cordless electronic calculators may be used. Candidates using electronic calculators MUST state on the front cover of the script the name and type of calculator.

SECTION A

1. Write a report on the data (*overleaf*) paying attention to any problems of classification that may have arisen.

1.   Tenure of households : by socio-economic group of head of household. 1981

<div align="center">Great Britain   Percentages and thousands</div>

Socio-economic group of head of household (percentages)	Owner-occupied			Rented		
	Owned Outright	Owned with mortgage	Local authority new town	Unfurnished private	Furnished private	Total households (= 100%) (thousands)
Economically active heads Professional, employers, and managers	20	62	8	7	3	2,916
Intermediate non-manual	17	60	12	5	5	1,088
Junior non-manual	17	49	20	9	4	1,389
Skilled manual and own account non-professional	16	42	33	7	1	4,216
Semi-skilled manual and personal service	14	27	44	12	3	1,895
Unskilled manual	15	16	57	9	2	540
Economically inactive heads	40	4	42	12	2	6,832
All households	25	31	32	9	2	18,875

(1) Excludes households headed by members of the armed forces, full time students and those wh have never worked.

(2) Includes those renting from a housing association, and those renting with a job or business

SOURCE: Labour Force Survey 1981. Office of Population Consuses and Surveys.

2.

DEATHS FROM ACCIDENTS IN THE HOME

	MALES			FEMALES	
AGE		NUMBER	AGE		NUMBER
0 - 4		162	0 - 4		123
5 - 14		57	5 - 14		34
15 - 44		495	15 - 44		211
45 - 64		520	45 - 64		388
65 and over		1247	65 and over		2985

Calculate suitable measures of average and dispersion for males and females. Explain your choice of measure and comment upon the results.

3.

SOCIO-ECONOMIC GROUPS OF CIGARETTE SMOKERS BY SEX

	Professional	Employers & Managers	Junior non Manual	Skilled Manual	Semi Skilled Manual	Un Skilled Manual
MALES	52	159	179	412	168	52
FEMALES	45	160	304	343	231	71

The above data refer to a random sample of 2176 cigarette smokers. Test at a 95% level of confidence the hypothesis that there is a significant difference in socio-economic grouping between male and female cigarette smokers. Discuss the statistical principle involved in the test you use.

4.

LENGTH OF LOAN OF A RANDOM SAMPLE OF PUBLIC LIBRARY BOOKS

Length of book loans in Days	Number of Books
Under 5	40
5 to 7	450
8 to 10	850
11 to 14	1160
15 to 17	1100
18 to 21	950
22 to 24	350
Over 24	100
	5000

Estimate the arithmetic mean of the population of loans of public library books at a 99% level of confidence. Explain your result to the non-statistical librarian and advise him as to whether or not he can consider the population of library loans to be normally distributed.

5. Calculate the regression equation of the number of lone parent families on time from the data given below. Discuss the statistical principle upon which the technique is based and estimate the number of lone parent families in 1984. Upon what factors may the accuracy of your estimate depend?

YEAR	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
NUMBER OF LOAN PARENT FAMILIES IN THOUSANDS	515	561	615	658	684	700	746	801	858	918

6. Discuss the principle of statistical correlation and its role in research methods. Illustrate your answer with practical examples.

7. The technique of significance testing depends upon the assumption that the non-sampling error has been minimised. Describe the steps that you would take to provide evidence to allow this assumption to be made of a sample of women interviewed as to their attitudes toward babies being innoculated against whooping cough.

8. Discuss the problems involved in attempting to measure hospital in-patients' satisfaction with the meals provided.

9. Outline the officially published data that may be of use in a study of the nursing profession.

10. Compare the collection of data relating to outpatient waiting times by either an interview or by a questionnaire handed to them as they leave the hospital.

11. A consultant wishes to take a sample of out-patients suffering from eczema and to compare the effectiveness of two different skin creams upon the patient's condition. Advise him of the problems he must overcome before he can hope to obtain valid and reliable data.

12. Discuss the advantages and disadvantages of a longitudinal study of physical changes related to age compared with a survey based upon a sample of people of different ages.