



NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF COMMUNICATION AND INFORMATION SCIENCE
DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE
BACHELOR OF SCIENCE HONOURS DEGREE IN LIBRARY AND INFORMATION SCIENCE
RESEARCH METHODS AND STATISTICS
ILI 2203

Second Semester Examination Paper

May 2016

This examination paper consists of 3 pages

Time Allowed: 3 hours
Total Marks: 100
Special Requirements: None
Examiner's Name: N. Pasipamire

INSTRUCTIONS

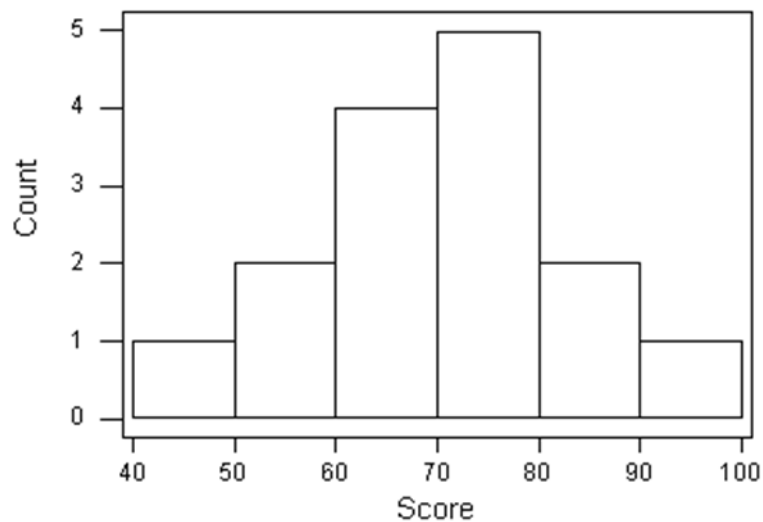
1. Answer any four (4) questions.
2. Give equal time to each question you choose.
3. Each question carries 25 marks.
4. Importance is attached to clear presentation of ideas, good expression and legibility of handwriting.

MARK ALLOCATION

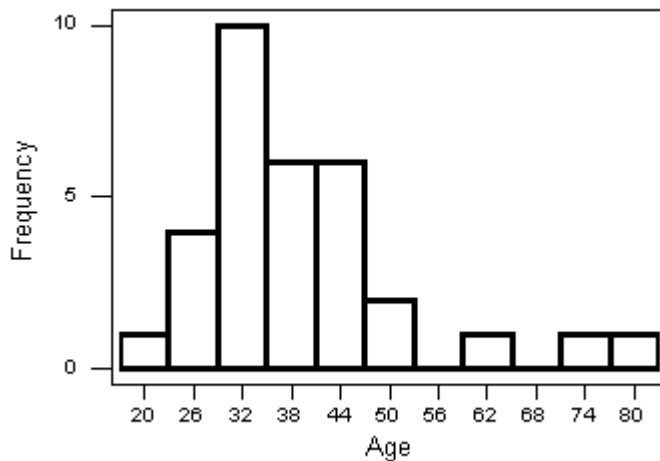
QUESTION	MARKS
1.	25
2.	25
3.	25
4.	25
5.	25
6.	25

1. Compare and contrast the characteristics of qualitative and quantitative research, highlighting the strengths and weaknesses of each type of research in your answer. [25 marks]
 2. Discuss the use of the interview technique as an instrument of gathering data in qualitative research showing its advantages and disadvantages. [25 marks]
 3. Distinguish action research from basic research, showing how the two can be complementary in solving the problems of mankind. [25 marks]
 4. Demonstrate the data display tools used to show frequency of occurrence, trends over time and distribution. [25 marks]
- 5.1 Interpret the following histograms in terms of shape, centre, spread and outliers. [20 marks]

i)



ii)



5.2 With reference to the two histograms above, discuss the limitations of presenting data using a histogram. [5 marks]

6 A professor of gynaecology at a prominent medical school wants to determine if an experimental birth control implant has side effects on body weight and depression. A group of 1000 adult women living in a nearby city volunteered for the experiment. The gynaecologist selects 100 of these women to participate in the study. Fifty of the women are assigned to Group 1 and the other fifty to Group 2 such that the mean body weight and the mean depression scores of each group are equal at the beginning of the experiment. Treatment conditions are the same for both groups, except that the women in Group 1 are surgically implanted with the experiment birth control device while the women in Group 2 receive a placebo implant. Body weight and depressed mood state are measured at the beginning and at the end of the experiment. A standardised questionnaire designed to measure the degree of depression is used for the mood state measurement. The higher the score on this questionnaire, the more depressed the individual is. The mean body weight and the mean depression scores of each group at the end of the experiment are compared to determine if the experimental birth control implant had an effect on these variables. Note that to safeguard the women from unwanted pregnancy, another method of birth control that does not interact with the implant was used for the duration of the experiment.

From the above, specify and discuss the following:

- | | |
|---|------------|
| 6.1 The role-type classification of the variables | [10 marks] |
| 6.2 The strategy of inquiry | [5 marks] |
| 6.3 The data collection tool(s) | [5 marks] |
| 6.4 The Sample and sampling process | [5 marks] |