



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2016/2017

**SECOND YEAR FIRST SEMESTER EXAMINATIONS FOR THE
DEGREE OF BACHELOR OF SCIENCE WITH INFORMATION
TECHNOLOGY**

MAIN CAMPUS

MAS 201: SAMPLE SURVEYS

Date: 28th November, 2016

Time: 8.30 - 11.30 am

INSTRUCTIONS:

- Answer question ONE and any other TWO questions.
- Start each question a fresh page
- Indicate question numbers clearly at the top of each page.
- Observe further instructions on the answer booklet.



Instructions:

The paper consists of five questions

Answer **Question 1** and any other two questions

Observe further instructions on the answer booklet

Question 1 (30 Marks)

- a) Distinguish between the following concepts as used in sample surveys
 - i) population and sample
 - ii) parameter and statistic
 - iii) cross sectional survey and longitudinal survey
 - iv) probability sample and non-probability sampling
 - v) stratified sampling and quota sampling (10 Marks)
- b) Define a Simple Random Sample (2 Marks)
- c) State two advantages and two disadvantages of using a simple random sample for a given study (4 Marks)
- d) Briefly describe how the "Lottery" method is used to select a simple random sample from a given population (5 Marks)
- e) Distinguish between unit non-response and item non-response in surveys (4 Marks)
- f) Give two reasons why survey practitioners follow up non-respondents, and discuss briefly how useful a follow-up can be (5 Marks)

Question 2 (20 Marks)

The manager of a hotel has been asked to find out what people staying there think about its facilities. The hotel is used mainly for group bookings made by several travel firms, but also by independent travelers. Groups travelling with different firms might arrive on

different days, but those in a given group register on their arrival at approximately the same time as one another. The manager is considering two ways of choosing a sample of people to interview.

- o Taking a quota sample of residents during a particular week
 - o Taking a systematic sample of those who arrived during a particular week from the registration records. These records are in order of registration.
- a) Write a clear list of instructions for the manager to use in order to carry out each of these methods. [You may assume that the manager has been told how large the samples should be.] (10 Marks)
- b) Outline any potential advantages and disadvantages each method has for obtaining a sample of people staying at the hotel and for achieving a desired number of interviews. (10 Marks)

Question 3 (20 Marks)

- a) An administrator at a large hospital wishes to carry out a survey of the in-patients (i.e. those who stayed at least one night) who are in the hospital on the night of 31 May 2007. Patients are allocated to beds in one of three types of ward, Observation, Surgical Care, or Intensive Care. Two methods of choosing a sample of patients, who will be asked to complete a short questionnaire, have been proposed.
- A. Take a simple random sample of wards, and then take a simple random sample of patients from the selected wards.
 - B. Considering the wards of each type to be a single group of patients, take a simple random sample of patients from each of the three groups.
- i) Give the technical name of each sampling method. (4 Marks)
- ii) For each sampling method A and B, state the conditions which would help ensure that the method works well. (4 Marks)
- iii) For each sampling method, state one advantage and one disadvantage of using it for this survey. (4 Marks)

- b) A careers advisor at a university is interested in finding out details relating to the occupations of the university's graduates one, five, and ten years after graduation. State the two advantages and two disadvantages of collecting this information by
- i) a longitudinal study of a sample of last year's graduates (4 Marks)
 - ii) sample surveys of those who graduated one, five, and ten years ago (4 Marks)

Question 4 (20 Marks)

- a) Explain three reasons why non-response is a problem in social surveys. (6 Marks)
- b) List four reasons for non-response in a postal survey. By addressing these reasons, suggest ways in which non-response might be reduced. (8 Marks)
- c) Present three arguments in favor of conducting interviews over the telephone instead of face to face (6 Marks)

Question 5 (20 Marks)

The questions on the next page are taken from a draft of a questionnaire that is to be sent by mail to members of an environmental organization X. The information obtained is to be used in attempts to increase membership, but current members are not to be told the true purpose of the survey.

- a) Draft a short introduction to the questionnaire, bearing in mind that a high response rate is desirable. (8 Marks)
- b) Draw attention to any features of the draft questionnaire that you feel are particularly worth commending. (2 Marks)
- c) For each question that you feel could be improved, explain what the problem is and suggest how that question might be reworded. Your suggestions could include asking supplementary questions as well as making changes to the wording. (10 Marks)