



**STRATHMORE INSTITUTE OF MATHEMATICAL SCIENCES  
END OF SEMESTER EXAMINATION  
BACHELOR OF BUSINESS SCIENCE IN FINANCIAL ECONOMICS/FINANCIAL  
ENGINEERING/ACTUARIAL SCIENCE  
BSA 3216/BSE 3214/BSF3218: RESEARCH METHODS**

**DATE: 18<sup>th</sup> January 2022**

**Time: 2 Hours**

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**Instructions**

**Answer question one and any other two questions**

**Total marks: 40**

**Questions one (20 marks)**

- a) Distinguish between the following
- (i) Experimental design and quasi-experimental design
  - (ii) Reactive and non-reactive observation
  - (iii) Open ended and closed survey items
  - (iv) Social desirability bias and acquiescence bias
  - (v) Causal hypotheses and correlational hypothesis **[10 marks]**
- b) Briefly state four purposes of a problem statement. **[4 marks]**
- c) State any three ethical considerations that a researcher would have to make when conducting research that involves human subjects. **[3 marks]**
- d) State three qualities of a strong hypothesis. **[3 marks]**

**Question 2 (10 marks)**

What type of experimental design would you recommend in each of the following cases? Suggest in some detail how you would design the study:

- (a) A study of the effects of various levels of advertising effort and price reduction on the sale of specific branded grocery products by a retail grocery chain. **[5 marks]**

- (b) A study to determine whether it is true that the use of fast-paced music played over a store's public address system will speed the shopping rate of customers without an adverse effect on the amount spent per customer. **[5 marks]**

**Question 3 (10 marks)**

- (a) Distinguish between extraneous and confounding variables. Use an example to illustrate how confounding variables make it difficult to interpret the results of a study. **[5 marks]**

- (b) Following is a brief description of a study aimed at finding ways of reducing the rate of refusals in telephone surveys. Telephone calls were made to randomly selected people to ask their opinions on the next election. In some calls the interviewer gave her name, in others she identified the university she was representing and still in others she identified both herself and the university. The study recorded what percent of each group of interviews was completed.

- (i) Is this an observational study or an experiment? Explain.  
(ii) What are the explanatory and response variables?  
(iii) State a possible hypothesis for this study. **[5 marks]**

**Question 4 (10 marks)**

- (a) Discuss a research scenario where a mixed method approach would be more appropriate than applying only quantitative or qualitative methods. **[5 marks]**
- (b) A large supermarket chain stopped having greeters (employees who greet customers as they enter the store) during its overnight shift and redefined the role of dayshift greeters, moving them further into the store, away from the door. What observation research would you have conducted to reach these decisions? Clearly state what would be observed and the type of observations that would be made. **[5 marks]**

**Question 5 (10 marks)**

- (a) Assume you are a manufacturer of women's accessories such as earrings, necklaces and bracelets, and you want to determine if some innovative designs with unusual shapes and colours developed for the Kenyan market could be successfully marketed in Europe. What qualitative research (provide some details of the method you would use) would you recommend and why? **[5 marks]**
- (b) A researcher suspects that people with ultraliberal political beliefs tend to be more prone to depression. She prepares a questionnaire that measures depression and also asks many political questions. Write a description of the purpose of this research to be read by subjects to obtain their informed consent. You must balance the conflicting goals of not deceiving the subjects about what the questionnaire will tell about them and of not biasing the sample by scaring off people with ultraliberal political views. **[5 marks]**