



CICT PART III SECTION 6
RESEARCH METHODS

FRIDAY: 24 May 2019.

Time Allowed: 3 hours.

Answer ALL questions. Marks allocated to each question are shown at the end of the question.

QUESTION ONE

- (a) (i) Explain the concept of literature review as used in research. (2 marks)
- (ii) Examine six features of a poorly undertaken literature review. (6 marks)
- (b) Describe the following terms as used in literature review:
- (i) Methodological review. (2 marks)
- (ii) Historical review. (2 marks)
- (iii) Systematic review. (2 marks)
- (c) Sampling theory is designed to attain the objectives of estimation, hypothesis testing and statistical inference.

With reference to the above statement:

- (i) Distinguish between “statistical estimation” and “statistical inference”. (4 marks)
- (ii) Explain two factors that should be considered in the determination of sample size. (2 marks)

(Total: 20 marks)

QUESTION TWO

- (a) Distinguish between “causal analysis” and “correlational analysis” as used in research. (4 marks)
- (b) Discuss any two multivariate analysis methods. (4 marks)
- (c) Explain two statistical measures that are used to summarise research findings data. (4 marks)
- (d) A dental clinic has approximately 1,800 patients. The clinic has launched an automated appointment system for the patients. A sample size of 300 patients has been obtained to find out the patient attitude towards the new system of appointment.

Required:

Describe the steps a researcher would follow to select the sample using systematic sampling method. (8 marks)

(Total: 20 marks)

QUESTION THREE

- (a) Summarise four essential features of the scientific method of research. (4 marks)
- (b) Explain the following categories of research design:
- (i) Exploratory research design. (4 marks)
- (ii) Hypothesis testing research design. (4 marks)
- (iii) Descriptive research design. (4 marks)
- (c) Describe time series analysis as used in research. (4 marks)

(Total: 20 marks)

QUESTION FOUR

- (a) Analyse four differences between “basic research” and “applied research”. (4 marks)
 - (b) Explain three methods that could be used to draw a random sample. (3 marks)
 - (c) Discuss six advantages of using a questionnaire as an instrument of data collection. (6 marks)
 - (d) Suggest seven ways through which unethical research might occur. (7 marks)
- (Total: 20 marks)**

QUESTION FIVE

- (a) Summarise four characteristics of good hypotheses. (4 marks)
 - (b) Highlight four advantages of using primary data in research. (4 marks)
 - (c) Suggest four factors that should be considered in determining whether a problem should be researched or not. (4 marks)
 - (d) Outline the layout of a research proposal. (8 marks)
- (Total: 20 marks)**
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