

2914/201
2915/201
RESEARCH METHODS
June/July 2020
Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN APPLIED BIOLOGY
DIPLOMA IN ANALYTICAL CHEMISTRY

MODULE II

RESEARCH METHODS

3 hours

INSTRUCTIONS TO CANDIDATES

You should have the following for this examination:

Answer booklet;

Non-programmable scientific calculator.

This paper consists of TWO sections: A and B.

Answer ALL the questions in section A and any THREE questions from section B in the answer booklet provided.

Each question in section A carries 4 marks while each question in section B carries 20 marks.

Maximum marks for each part of a question are indicated.

Candidates should answer the questions in English.

This paper consists of 4 printed pages.

Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

SECTION A (40 marks)

Answer ALL the questions in this section.

1. State **four** characteristics of basic research. *Direct method* (4 marks)
2. Outline **four** reasons that make it necessary for a researcher to reference sources of information. (4 marks)
3. List **four** components of a research proposal. *in the form of a proposal* (4 marks)
4. Distinguish between population and sample as used in research. (4 marks)
5. State **four** criteria that a good research problem statement should meet. (4 marks)
6. Outline **four** features of a good business name. (4 marks)
7. State **four** functions of a business plan in an organization. (4 marks)
8. Highlight **four** elements of distribution strategy for a business enterprise. (4 marks)
9. Outline **four** ways in which the financial plan of a business may assist an entrepreneur to achieve business objectives. (4 marks)
10. Outline **four** non-monetary rewards that the management of a business enterprise may use to motivate employees. (4 marks)

SECTION B (60 marks)

Answer any **THREE** questions from this section.

11. (a) Distinguish between reliability and validity as used in research. (4 marks)
- (b) Explain **four** factors that a researcher should consider when selecting a research design. (8 marks)
- (c) Explain **four** advantages of focus group discussions as a method of data collection. (8 marks)
12. (a) State **four** factors that may determine the sample size for a research study. (4 marks)
- (b) Some researchers prefer to use telephone interviews to collect data during research. Explain **five** reasons that may account for such preference. (10 marks)
- (c) Explain **three** requirements that the recommendations of a research report should meet. (6 marks)
13. (a) Explain **three** purposes of a research report. (6 marks)
- (b) In a study to test the viability of a new variety of maize, an experiment was carried out on fifty experimental fields. The following results were obtained.

Yield per hectare (tonnes)	Number of fields
31 - 35	2
36 - 40	3
41 - 45	8
46 - 50	12
51 - 55	16
56 - 60	5
61 - 65	2
66 - 70	2

Determine the:

- (i) mean; $\frac{\sum fx}{\sum f}$
- (ii) standard deviation;
- (iii) variance.

$$S.D = \frac{\sum N(x-x_1)^2}{N-1}$$

$$= \frac{\sum fd^2}{\sum f}$$

(14 marks)

Turn over

14. (a) James and William are in the process of registering a partnership form of business. Explain **four** benefits that they may derive from operating this form of business. (8 marks)
- (b) Identify **four** aspects of the product element of the marketing mix. (4 marks)
- (c) Explain **four** objectives that a manufacturing firm may seek to achieve through production scheduling. (8 marks)
15. (a) Explain **three** stock-related challenges that may be faced by a manufacturing firm. (6 marks)
- (b) Outline **four** reasons that make insurance an important support service to businesses. (8 marks)
- (c) Explain **three** indicators of a poorly written business plan. (6 marks)

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