

2506/204

2507/204

**AIRFIELD SAFETY PROCEDURES II
AND RESEARCH METHODS**

Oct/Nov. 2019

Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

**DIPLOMA IN AERONAUTICAL ENGINEERING
(AIRFRAMES AND ENGINES OPTION)
(AVIONICS OPTION)**

MODULE II

AIRFIELD SAFETY PROCEDURES II AND RESEARCH METHODS

3 hours

INSTRUCTIONS TO CANDIDATES

You should have the following for this examination:

Answer booklet;

Drawing instruments;

Mathematical tables/Non-programmable scientific calculator.

This paper consists of EIGHT questions in TWO sections; A and B.

Answer TWO questions from section A, TWO questions from section B and ONE question from either section A or B in the answer booklet provided.

All questions carry equal marks.

Maximum marks for each part of a question are as indicated.

Candidates should answer the questions in English.

This paper consists of 3 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: AIRFIELD SAFETY PROCEDURES II

Answer at least TWO questions from this section.

1. (a) Describe the functions of the aviation security control system. (4 marks)
- (b) Explain the security measures used to protect against acts of unlawful interference with reference to aircraft operator security program. (12 marks)
- (c) Describe **four** functions of the airport security committee. (4 marks)
2. (a) With reference to radio telephony principles, highlight the transmitting techniques that will ensure that transmitted speech is clearly and satisfactorily received. (12 marks)
- (b) Differentiate between each of the following standard words and phrases according to ICAO, Annex 10:
 - (i) break and correction;
 - (ii) hold short and maintain;
 - (iii) caution and confirm;
 - (iv) squawk and unable.(8 marks)
3. (a) Highlight the weight and balance information found in a typical load sheet. (5 marks)
- (b) Discuss each of the following with reference to aircraft weighing:
 - (i) weighing points; (7 marks)
 - (ii) fuel weight. (8 marks)
4. (a) Outline the duties of a quality assurance manager in an aviation organization. (6 marks)
- (b) Highlight the requirements of a quality assurance management system. (5 marks)
- (c) With reference to ageing aircraft maintenance:
 - (i) describe the maintenance steering group-3 (MSG-3); (2 marks)
 - (ii) Outline the governing principles of maintenance steering group-3 (MSG-3). (7 marks)

SECTION B: RESEARCH METHODS

Answer at least TWO questions from this section.

5. With reference to personal interviews as a method of data collection:
- (a) explain the term “indirect interview”. (2 marks)
 - (b) discuss **ten** advantages and **eight** disadvantages. (18 marks)
6. With reference to research project proposal:
- (a) describe literature review; (4 marks)
 - (b) outline **four** requirements of literature review; (4 marks)
 - (c) discuss how to revise and edit your work after completing literature review; (7 marks)
 - (d) highlight **five** issues addressed during preparation of a research project proposal. (5 marks)
7. Considering data processing and analysis in research methods:
- (a) explain the **two** methods of classification of data; (6 marks)
 - (b) factors to consider when editing data; (5 marks)
 - (c) discuss the methods of measure of dispersion. (9 marks)
8. Discuss the contents of the main text of a research report with examples. (20 marks)

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