

2207/306

AIRFIELD SAFETY AND PROCEDURES

Oct./Nov. 2018

Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL  
DIPLOMA IN AERONAUTICAL ENGINEERING  
(AVIONICS OPTION)

AIRFIELD SAFETY AND PROCEDURES

3 hours

**INSTRUCTIONS TO CANDIDATES**

*You should have the following for this examination:*

*Answer booklet;*

*Drawing instruments.*

*This paper consists of EIGHT questions.*

*Answer FIVE questions in the answer booklet provided.*

*Maximum marks for each part of a question are as shown.*

*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.**

1. <sup>x</sup> (a) Explain the aims and objectives of International Civil Aviation Organization (ICAO). (12 marks)
- (b) Outline the particulars entered in a certificate of registration. (4 marks)
- (c) Highlight **four** contributions under which a certificate of maintenance can be issued to an operator. (4 marks)
2. <sup>✓</sup> With reference to aircraft starting and ground running, explain **five**:
- (a) reasons as to why aircrafts should be headed into the wind before starting; (5 marks)
- (b) requirements before starting an aircraft; (5 marks)
- (c) considerations when starting a cold piston engine; (5 marks)
- (d) considerations prior to starting a gas turbine engine. (5 marks)
3. <sup>x</sup> (a) Discuss the requirements for external power hydraulic test rigs for use on aircrafts. (6 marks)
- (b) Outline the checks to be carried out when connecting and disconnecting hydraulic power in an aircraft. (14 marks)
4. <sup>✓</sup> (a) Explain the primary purpose of aircraft accident investigations. (2 marks)
- (b) Explain each of the following terms as applied in flight safety:
- (i) forced landing;
- (ii) incident;
- (iii) serious injury. (11 marks)
- (c) Highlight the information contained in an aircraft accident notification. (7 marks)

- 5.✓ (a) With reference to protective clothing, explain each of the following:
- (i) eye;
  - (ii) ear;
  - (iii) respiratory;
  - (iv) body.
- (8 marks)
- (b) With the aid of a cross-sectional sketch, label the parts of a chemical dry-powder extinguisher. (8 marks)
- (c) List **eight** details printed on the sides of all fire extinguisher bottles. (4 marks)
- 6.✓ With the aid of a labelled block diagram, discuss aircraft minor and major modification procedure. (20 marks)
- 7.✓ Discuss each of the following stores used in the aviation industry:
- (a) quarantine; (10 marks)
  - (b) bonded. (10 marks)
- 8.✓ With reference to aircraft crash and rescue, outline:
- (a) **seven** things to consider en-route to the crash site; (7 marks)
  - (b) **nine** Possible danger areas during approach to a crash site; (9 marks)
  - (c) **four** hazards to manage and mitigate. (4 marks)

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