

2207/306

AIRFIELD AND SAFETY PROCEDURES

Oct./Nov. 2008

Time: 3 hours

THE KENYA NATIONAL EXAMINATIONS COUNCIL

**DIPLOMA IN AERONAUTICAL ENGINEERING AVIONICS  
(COMMUNICATION AND NAVIGATION OPTION)**

AIRFIELD AND SAFETY PROCEDURES

**3 hours**

**INSTRUCTIONS TO CANDIDATES**

*You should have the following for this examination:*

*Answer booklet.*

*Mathematical tables/Scientific calculator.*

*Drawing instruments.*

*Answer any **FIVE** of the following **EIGHT** questions.*

*All questions carry equal marks.*

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

**This paper consists of 3 printed pages.**

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

1. (a) Outline the aircraft maintenance tasks to be carried on an aircraft after **two** weeks night stop. (4 marks)
- (b) List any **six** entries to be found in the aircraft Technical Log Book of the aircraft in (a) above. (3 marks)
- (c) (i) Explain the **three** factors that would cause an aircraft defect not to be rectified on transit.
- (ii) Design a detailed Component Defect Report form according to the Kenya Civil Aviation Authority. (13 marks)
2. (a) With the aid of the fire triangle sketch, explain the **three** principles of extinguishing fires. (5 marks)
- (b) Describe the **four** types of fires and in each case give the appropriate extinguishing agent. (8 marks)
- (c) Explain the requirements and operation of an aircraft engine Fault Free Fire Detection System. (7 marks)
3. Discuss the aircraft Technical Stores under the following headings:
  - (a) Inventory (5 marks)
  - (b) Functional classification (10 marks)
  - (c) Storage. (5 marks)
4. (a) Outline the maintenance aspects to be considered when using the following aircraft ground equipment:
  - (i) electrical rigs
  - (ii) emergency runway lights
  - (iii) mobile giraffe ladders
  - (iv) emergency battery trolley. (12 marks)
- (b) With the aid of a sketch explain how the safe working loads of lifting devices can be established. (8 marks)

5. Explain how each of the following aircraft documents are used:
- (a) Illustrated parts catalogue (5 marks)
  - (b) Wiring manual (5 marks)
  - (c) Flight manual (5 marks)
  - (d) Technical log book. (5 marks)
6. (a) Outline the safety precautions to be observed when refueling a foreign aircraft. (5 marks)
- (b) List the necessary safety precautions to be observed when working on an aircraft fitted with the following:
- (i) radar
  - (ii) explosive devices
  - (iii) rotors. (15 marks)
7. (a) Define the following terms as applied in air field operations:
- (i) taxiing
  - (ii) thresh holding point
  - (iii) apron
  - (iv) deboggy. (4 marks)
- (b) (i) With the aid of a sketch explain the requirements when parking a light aircraft in a stormy area.
- (ii) Explain the information that must be received from control tower before taxiing the aircraft from the ramp. (11 marks)
- (c) Outline the safety procedures to be followed when driving in an airfield. (5 marks)
8. (a) Outline the International Civil Aviation Organization laws governing the freedoms of flight. (5 marks)
- (b) Design a form to be filled by a person reporting an aircraft accident according to Civil Aviation Authority. (15 marks)