

2107/308

AIRFIELD AND SAFETY PROCEDURES

Oct./Nov. 2017

Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

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

AIRFIELD AND SAFETY PROCEDURES

3 hours

INSTRUCTIONS TO CANDIDATES

You should have drawing instruments for this examination:

Answer FIVE of the EIGHT questions in the answer booklet provided.

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 pages are printed as indicated and that no questions are missing.

1. With reference to aircraft ground handling, outline:

- (a) **ten** checks and precautions required when towing an aircraft. (10 marks)
- (b) **four** methods of moving an aircraft on the ground after landing. (4 marks)
- (c) **six** precautions to be observed when parking an aircraft over a long period. (6 marks)

- 2.
- (a) An aircraft landing gear oleo strut is to be charged. Outline the precautions to be observed. (9 marks)
 - (b) Outline the checks involved when connecting or disconnecting hydraulic power. (11 marks)

- 3.
- (a) Explain **five** personal protective equipment during aircraft search and rescue. (10 marks)
 - (b) Discuss the potential hazards that a search and rescue worker can encounter. (10 marks)

- 4.
- (a) A technician wants to use a hand held extinguisher in the workshop. Highlight **four** considerations before use. (4 marks)
 - (b) Explain the classification of fire and state the best suited extinguisher for each. (8 marks)
 - (c) With the aid of a labelled sketch, describe the construction of a dry foam fire extinguisher. (8 marks)

- 5.
- (a) Outline **four** types of airworthiness certificates issued by the Kenya Civil Aviation Authority. (4 marks)
 - (b) Explain the conditions under which the authority shall issue a certificate of air worthiness. (16 marks)

- 6.
- (a) Explain each of the following types of aircraft maintenance inspections:
 - (i) annual;
 - (ii) 100 hour;
 - (iii) pre-flight.(9 marks)
 - (b) With the aid of a flow diagram, show the minor modification procedure. (5 marks)
 - (c) Outline the roles played by the quality department in maintenance and inspection of aircrafts. (6 marks)

- 7/ (a) Explain the requirements for markings on an aircraft. (8 marks)
- (b) Describe each of the following aircraft ground support equipments:
- (i) electric power unit;
 - (ii) hydraulic rigs;
 - (iii) air driven starters;
 - (iv) air heating and conditioning.
- (12 marks)

8. With the aid of a flow chart, describe the aircraft maintenance store process and procedures. (20 marks)

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