



EAST AFRICAN SCHOOL OF AVIATION EXAMINATION

ENGINEERING SECTION

DIPLOMA IN AERONAUTICAL ENGINEERING

AIRFRAME TECHNOLOGY

TREAM: TEP III (AE)

Duration: 3 Hrs.

DATE: 10/4/2017

TIME: 9.00 – 12.00 PM

INSTRUCTIONS TO CANDIDATE:

1. *This paper consists of **THREE (3)** printed pages.*
2. *Answer **ANY THREE** questions from **SECTION A** and **TWO** question in **SECTION B***

- 1 (a) Describe any FOUR types of aircraft ice formation. **(8marks)**
- (b) With aid of labelled sketches, describe the construction and operation of the following aircraft ice detectors:
- (i) Hot ice detector
- (ii) Pressure head detector **(12marks)**
- 2 (a) Differentiate between the terms “ anti-icing” and”de-icing” as applied to aircraft surface. **(4 marks)**
- (b) Outline the specific places each of the above 2 (a)are performed stating the best method of control suited in each place. **(16marks)**
- 3 (a) With aid of labelled sketches explain the operation of the following types of aircraft fuel systems:
- (i) Gravity feed
- (ii) Pressure feed. **(8marks)**
- (b) Explain the construction of the THREE types of aircraft fuel tanks. **(6 marks)**
- (c) With aid of a labelled sketch explain the operation of a float switch in aircraft fuel tanks **(8marks)**
- 4 (a) Describe the following aircraft fire detection methods:
- (i) Melting link detector
- (ii) Differential expansion detectors
- (iii) Continuous fire detector
- (iv) Gas filled detector. **(12marks)**
- (b) Explain the sequence of discharging fire bottle to put off engine fire from the cockpit. **(8marks)**
- 5 (a) Discuss the layout of an aircraft waste and water system. **(10marks)**
- (b) Outline the major components in a portable water system. **(6 marks)**
- (c) Explain the purpose of waste and water system in an aircraft. **(4marks)**

SECTION B

1. Sketch and label the layout of an approved store and state the activities carried out in any five sections. **(20marks)**

2. (a) Outline the purpose of inventory control on an aircraft technical store **(5marks)**
(b) Differentiate between the following terms as applied to an aircraft technical store:
 - (i) Quarantine and bonded
 - (ii) Centralized and decentralized
 - (iii) Liferated and shelf liferated parts. **(6marks)**
 - (c) Describe the procedures of stores transaction in airline technical stores **(9marks)**

3. (a) State any SIX categories of aircraft maintenance license issued by KCAA. **(6marks)**
(b) State the location of nationality and registration marks on a fixed wing aircraft. **(4marks)**
(c) Define the following terms as used in aircraft maintenance:
 - (i) Approval
 - (ii) Authorization
 - (iii) Validation
 - (iv) Duplicate inspection
 - (v) License **(10marks)**