



## EAST AFRICAN SCHOOL OF AVIATION EXAMINATION

### END TERM II

DIPLOMA IN AERONAUTICAL ENGINEERING

WORKSHOP TECHNOLOGY AND LIFE SKILLS

STREAM: Module I (Avionics + Airframes & Engines)

Duration: 3 HRS

DAY/DATE: 07/04/2017

TIME: 9-12pm

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#### INSTRUCTION TO CANDIDATES

1. This paper consists of **THREE** (3) pages
2. Answer **Three** questions in section **A** and **Two** in section **B**

**SECTION A    WORKSHOP TECHNOLOGY**

**ANSWER ANY THREE QUESTIONS IN THIS SECTION**

1. (a) With the aid of sketches describe the rightward gas welding principle.  
**(10marks)**
- (b) With the aid of sketches, explain the process of non-destructive metal testing using the dye penetrant method **(10 marks)**
- 2.(a) (i) State **Four** properties of materials used in the manufacture of tools.
- (ii) Explain **two benefits of waste recycling.** **(8 marks)**
- (b) (i) With the aid of a labeled diagram, describe the process of boring a large hole on a copper bar using a Centre lathe. **(8 marks)**
- (ii) State **four** safety precautions observed when using lathe machines.  
**(4 marks)**
3. (a) With the aid of sketches explain the following filing techniques:
  - (i) Draw filing
  - (ii) Cross filing **(8 marks)**
- (b) Explain the following heat treatment processes:
  - (i) Annealing
  - (ii) Normalizing **(4 marks)**
- (c) (i) Draw a well labeled diagram of a micrometer screw gauge.
- (ii) Outline **Two** methods of caring of measuring equipment.**(8 marks)**
4. (a) With the aid of a diagram, explain the extraction of aluminium.**(10 marks)**
- (b) Explain **Four** forms of supply for steels **(4 marks)**
- (c) List **six** factors contributing to the marketability of a product.**(6 marks)**

**SECTION B LIFE SKILLS**

**ANSWER ANY TWO QUESTION ONLY**

5. (a) (i) Define the term negotiation.
- (ii) State **two** benefits of negotiating **(4 marks)**
- (b) (i) Outline **Four** psychological indicators of stress in a student.
- (ii) Explain **Three** strategies of managing stress at work. **(10 marks)**
- (iii) Highlight **Six** attributes of an assertive employee. **(6 marks)**
6. (a) (i) Outline **Five** steps in the decision making process.
- (ii) Explain **Three** consequences of wrong choices **(11 marks)**
- (b) (i) Define the term “creative thinking”.
- (ii) Describe three situations that call for creative thinking in aviation settings .
- (iii) State **four** benefits of creative thinking. **(9marks)**
7. (a) (i) State **Four** barriers to non-conflict resolution. **(4 marks)**
- (ii) Explain how to overcome the barriers stated in b (i) above. **(4 marks)**
- (b) A teenager experiencing adolescence challenges approaches you to advice on how to overcome the same. Use the following sub-heading to advice the teenager.
- (i) Social challenges
- (ii) Physical challenges
- (iii) Emotional challenges **(12 marks)**