



**EAST AFRICAN SCHOOL OF AVIATION**

**ATC COURSE ICAO CODE 052**

**FINAL**

**SUBJECT: THEORY OF FLIGHT**

**STREAM: ATC COURSE No. 69 BASIC AERODROME**

**Duration: 2 Hrs**

**DATE: 08/12/2016**

**TIME 8.30 – 10.30 AM**

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**INSTRUCTION TO CANDIDATES**

1. This paper consists of **TWO (2)**-Pages
2. Attempt all questions
3. Read and understand all questions before attempting

1. In regard to the Jet engine, briefly describe the following
  - a) The compressor **(3 marks)**
  - b) Combustion **(3 Marks)**
  - c) The turbine **(3 Marks)**
  - d) The exhaust system **(3 Marks)**
2. Briefly describe the following and how or when used
  - a. Thrust reverser **(3 Marks)**
  - b. After burners **(3 Marks)**
3. Give 5 advantages of the Jet engine over piston engine **(10 Marks)**
4. Briefly comment on:
  - a. Propeller shape **(3 Marks)**
  - b. Propeller pitch **(3 Marks)**
  - c. Propeller feathering **(3 Marks)**
5. Give the various fuels used by:
  - a. Piston engines **(3 Marks)**
  - b. Jet engines **(3 Marks)**
6. Name and briefly describe the 3 types of icing that affects aircraft **(9 Marks)**
7. Give 5 Effects of icing on aircraft **(10 Marks)**
8. Give 5 ways ice formation on aircraft can be prevented. **(10 Marks)**
9. What is the significance of the speed of sound to flight? **(6 Marks)**
10. Describe briefly
  - a. shockwave formation **(3Marks)**
  - b. Critical Mach number **(3 Marks)**
11. How is
  - a. The critical Mach number raised? **(4 Marks)**
  - b. What are the disadvantages of each method? **(4 Marks)**
12. Which are the Airspeed Indicator errors? **(8 Marks)**