



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

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)**