

KENYA CERTIFICATE OF BASIC EDUCATION

SENIOR SCHOOL ASSESSMENT

AUGUST HOLIDAY ACTIVITIES 2026

GRADE 10 – AVIATION

Time: 2 Hours

LEARNER'S DETAILS

Name: _____ . School: _____ .

Assessment Number: _____ . Date: _____ .

School Code: _____ . Signature: _____ .

INSTRUCTIONS TO CANDIDATES

1. Write your name in the spaces provided above.
2. Write the name of your school and your stream in the spaces provided.
3. Write your admission number and the date of the assessment in the spaces provided.
4. This paper consists of two sections: A and B.
5. Answer all questions in section A and section B.
6. Answer the questions in English.
7. All answers **MUST** be written in the spaces provided in the paper.
8. Do **NOT** remove any page from this question paper.

FOR OFFICIAL USE ONLY

SECTION	SECTION A	SECTION B	% SCORE	EE1	EE2	ME1	ME2	AE1	AE2	BE1	BE2
SCORE RANGE	30 MARKS	50 MARKS		90-100	75-89	58-74	41-57	31-40	21-30	11-20	1-10
POINTS				8 POINTS	7 POINTS	6 POINTS	5 POINTS	4 POINTS	3 POINTS	2 POINTS	1 POINT
LEARNER'S TOTAL SCORE											

SECTION A (30 MARKS)

Answer **ALL** questions in this section.

1. During a lesson at **Wilson Airport, Nairobi**, learners observed a chart showing early aircraft development.

S



T



a) Identify **any two aircraft types** shown. (2 marks)

S: _____

T: _____

b) Classify each identified aircraft as **lighter-than-air** or **heavier-than-air**. (2 marks)

- i. Hot air balloon
- ii. Glider
- iii. Wright plane
- iv. Helicopter

lighter-than-air	heavier-than-air

c) Name one **aviation pioneer** associated with early flight. (1 mark)

2. Match aircraft in Column A with their functions in Column B: (3 marks)

Column A

- (i) Helicopter
- (ii) Cargo aircraft
- (iii) Fighter jet

Column B

- (a) Cargo transport
- (b) Vertical take-off
- (c) Defence

3. At **Moi Air Base, Eastleigh**, a learner got injured while using tools.

a) Define **aviation workplace safety**. (1 mark)

b) State **two hazards** in an aviation workshop. (2 marks)

- i. _____
- ii. _____

c) Classify injuries into **two categories**. (2 marks)

- i. _____
- ii. _____

4. **Grade 10 Aviation Technology** learners discussed about the components of a **First-Aid Kit**

a) Identify **two items** in the kit. (2 marks)

- i. _____
ii. _____

b) State one use of each item identified. (2 marks)

Tool	Use

5. Write True/False in the following statements

- a) Airside is accessible to the general public. _____ (1 mark)
b) Mandatory signs must be obeyed. _____ (1 mark)
c) Landside includes parking areas. _____ (1 mark)

6. Learners observed different airport areas.

a) Name **two main areas** of an airport. (2 marks)

- i. _____
ii. _____

b) State one function of each. (2 marks)

Airport area	Function

7. Four learners gave the following statements:

- i. **Amina:** "This part carries passengers."
ii. **Brian:** "This part provides lift."
iii. **Carol:** "This part stabilizes the aircraft."
iv. **David:** "This part supports landing."

a) Identify the parts described by **any two learners**. (2 marks)

- i. _____
ii. _____

b) State one function of each identified part. (2 marks)

Part	Function

8. Study the aviation tools shown below



Q



R

a) Name **two tools** shown. (2 marks)

Q _____

R _____

b) Name two **cutting tools** used in aviation. (2 marks)

- i. _____
- ii. _____

9. A pilot delayed take-off due to bad weather.

a) List **two elements of weather**. (2 marks)

- i. _____
- ii. _____

b) State one effect of each on flight. (2 marks)

Element	Effect

10. During communication practice:

a) Define **ICAO phonetics**. (1 mark)

b) State **three examples** (e.g., Alpha, Bravo...). (3 marks)

- i. _____
- ii. _____
- iii. _____

SECTION B (50 MARKS)

11. A resource person explained aircraft development.

a) Explain **three historical milestones** in aviation. (6 marks)

- i. _____
- ii. _____
- iii. _____

b) Describe contributions of:

i) Wright Brothers (2 marks)

ii) Igor Sikorsky (2 marks)

c) Categorise aircraft into **two main groups** and explain. (4 marks)

d) Evaluate **two functions** of aircraft in aviation. (4 marks)

- i. _____
- ii. _____

12.

a) Explain **four safety measures** in an airport. (8 marks)

- i. _____
- ii. _____
- iii. _____
- iv. _____

b) Describe **three types of safety signs**. (6 marks)

- i. _____
- ii. _____
- iii. _____

c) Outline **three safety rules** when moving in an airport. (6 marks)

- i. _____
- ii. _____
- iii. _____

13. Learners at **Alliance High School** built a model aircraft.

a) Describe functions of the following parts:

i) Wing (2 marks)

ii) Fuselage (2 marks)

iii) Landing gear (2 marks)

b) Explain **three properties of aircraft materials**. (6 marks)

- i. _____
- ii. _____
- iii. _____

c) Describe **four safety precautions** when using tools. (8 marks)

- i. _____
- ii. _____
- iii. _____
- iv. _____

14.

a) Identify the **four forces acting on an aircraft**. (4 marks)

- i. _____
- ii. _____
- iii. _____
- iv. _____

b) Explain each force. (8 marks)

- i. _____
- ii. _____
- iii. _____
- iv. _____

c) Describe **three axes of an aircraft**. (6 marks)

- i. _____
- ii. _____
- iii. _____
- iv. _____

15. Learners visited businesses at JKIA.

a) Identify **four airport business services**. (8 marks)

- i. _____
- ii. _____
- iii. _____
- iv. _____

b) Explain **four financial concepts** in aviation business. (8 marks)

- i. _____
- ii. _____
- iii. _____
- iv. _____

c) Analyse **four consumer rights** in airport operations. (8 marks)

- i. _____
- ii. _____
- iii. _____
- iv. _____

MARKING SCHEME - GRADE 10 AVIATION TECHNOLOGY

SECTION A (30 MARKS)

1. Aviation History (5 marks)

a) Aircraft types (Any 2 ×1)

- Hot air balloon
- Glider

b) Classification (Any 2 ×1)

- Hot air balloon - Lighter-than-air
- Glider - Heavier-than-air
- Wright plane - Heavier-than-air
- Helicopter - Heavier-than-air

c) Pioneer (Any 1 ×1)

- Wright Brothers
- Montgolfier Brothers
- George Cayley
- Igor Sikorsky

2. Matching (3 marks)

i - b

ii - a

iii - c

3. Aviation Workplace Safety (5 marks)

a) Definition:

- Measures taken to protect workers from hazards and injuries in aviation workplaces. (1 mark)

b) Hazards (Any 2 ×1)

- Sharp tools
- Electrical equipment
- Noise
- Fire/heat

c) Injury classification (Any 2 ×1)

- Minor
- Serious
- Fatal

4. First Aid Kit (4 marks)

a) Items (Any 2 ×1)

- Bandage
- Gloves
- Antiseptic
- Cotton wool

b) Uses (Any 2 ×1)

- Bandage - covering wounds
- Gloves - protection from infection
- Antiseptic - cleaning wounds

5. True/False (3 marks)

- a) False (Airside is restricted)
- b) True
- c) True

6. Airport Areas (4 marks)

a) Areas (Any 2 ×1)

- Landside
- Airside
- Terminal

b) Functions (Any 2 ×1)

- Landside - public access/services
- Airside - aircraft operations
- Terminal - passenger processing

7. Aircraft Components (4 marks)

a) Identification (Any 2 ×1)

- Amina - Fuselage
- Brian - Wing
- Carol - Empennage
- David - Landing gear

b) Functions (Any 2 ×1)

- Fuselage - carries passengers/cargo
- Wing - provides lift
- Empennage - stability
- Landing gear - supports landing

8. Tools and Materials (4 marks)

a) Tools (Any 2 ×1)

- Spanner
- Measuring tape

b)

Option 1

- i. Aviation snips
- ii. Hacksaw

Option 2

- i. Tin snips
- ii. Hand shears

Option 3

- i. Hacksaw
- ii. File

Option 4

- i. Aviation snips
- ii. Power saw

Option 5

- i. Hand shears
- ii. Rotary cutter

Option 6

- i. Tin snips
- ii. Hacksaw blade cutter

Option 7

- i. Metal cutting saw
- ii. Aviation snips

Option 8

- i. Guillotine shear
- ii. Hacksaw

Common cutting tools used in aviation workshops:

- Aviation snips
- Tin snips
- Hand shears
- Hacksaw
- Power saw
- Rotary cutter
- Guillotine shear
- Metal cutting saw

9. Aviation Weather (4 marks)**a) Elements (Any 2 ×1)**

- Wind
- Temperature
- Pressure
- Humidity
- Clouds

b) Effects (Any 2 ×1)

- Wind - turbulence
- Temperature - engine performance
- Pressure - lift variation
- Clouds - reduced visibility

10. ICAO Communication (4 marks)**a) Definition:**

- Standard alphabet used in aviation communication. (1 mark)

b) Examples (Any 3 ×1)

- Alpha
- Bravo
- Charlie
- Delta
- Echo

SECTION B (50 MARKS)

11. Aviation Development (18 marks)

a) Milestones (Any 3 ×2)

- Hot air balloon invention
- Glider development
- Powered flight (Wright Brothers)
- Helicopter development

b) Contributions:

i) Wright Brothers (2 marks)

- First powered flight

ii) Igor Sikorsky (2 marks)

- Developed helicopter

c) Categories (4 marks)

- Lighter-than-air - balloons
- Heavier-than-air - airplanes, helicopters

d) Functions (Any 2 ×2)

- Transport
- Defence
- Rescue operations

12. Airport Safety (20 marks)

a) Safety measures (Any 4 ×2)

- Security screening
- Restricted access
- Use of safety signs
- Fire safety equipment

b) Safety signs (Any 3 ×2)

- Mandatory

- Prohibition
- Information

c) Rules (Any 3 ×2)

- Follow instructions
- Keep distance from aircraft
- Use designated paths

13. Aircraft Construction (20 marks)

a) Functions:

i) Wing - lift (2 marks)

ii) Fuselage - carries load (2 marks)

iii) Landing gear - supports aircraft (2 marks)

b) Properties (Any 3 ×2)

- Strength
- Light weight
- Durability

c) Safety precautions (Any 4 ×2)

- Wear protective gear
- Proper handling of tools
- Keep work area clean
- Follow instructions

14. Aerodynamics (18 marks)

a) Forces (4 marks)

- Lift
- Drag
- Thrust
- Weight

b) Explanation (Any 4 ×2)

- Lift - upward force
- Drag - resistance
- Thrust - forward force
- Weight - downward force

c) Axes (Any 3 ×2)

- Longitudinal

- Lateral
- Vertical

15. Airport Business Services (24 marks)

a) Services (Any 4 ×2)

- Catering
- Cargo handling
- Ticketing
- Security services

b) Financial concepts (Any 4 ×2)

- Budgeting
- Revenue
- Profit
- Expenses

c) Consumer rights (Any 4 ×2)

- Right to safety
- Right to information
- Right to quality service
- Right to compensation