THE 47 COUNTIES C1 SCHOOLS' JOINT NATIONAL SBA ASSESSEMENT

KENYA CERTIFICATE OF BASIC EDUCATION

SENIOR SCHOOL ASSESSMENT

TERM 2 MIDTERM ASSESSMENT 2026

GRADE 10 – METAL TECHNOLOGY

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 (EXAMINER'S USE)

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. Juma, a learner at Chewoyet Senior School was seen working in the school's *Jua Kali* wing.

(a) Identify three safety violations committed by Juma in the picture above. (3 marks)

(i) _____.

(ii) _____.

(iii) _____.

(b) Circle the correct tool used for protecting the eyes during electric arc welding: (1 mark)

Goggles **Welding Shield** **Sunglasses**

(c) State whether the following is **TRUE or FALSE**:

"Oily floors are a major cause of accidents in a metal workshop." [_____] (1 mark)

2. Match the tool image to its correct name and use. (5 Marks)

	Tool Image	Name of Tool	Primary Use
a			
b			
c			

3. At Alliance Senior School, Grade 10 learners in the Metal Technology workshop are being trained on the use of workshop tools.

(a) Name the parts of the hammer labeled below: (3 marks)



P: _____ **Q:** _____

(ii) A group of learners used the following tool during the project. (1 mark)



Name one function of the tool shown above.

_____.

(b) Identify the marking tool described below: (4 marks)

(i) Used for scribing large circles or arcs: _____.

(ii) Used to make a small indentation to guide a drill bit: _____.

(iii) Used to draw lines on metal surfaces: _____.

(iv) Used to support round bars during marking out: _____.

(c) Outline three maintenance practices for measuring tools like the Steel Rule. (3 marks)

(i) _____.

(ii) _____.

(iii) _____.

4. Grade 10 learners from Garbatula Senior School studied classification, properties, and uses of ferrous and non-ferrous metals in workshop practice.

(a) Distinguish between a Ferrous metal and a Non-Ferrous metal. (2 marks)

_____

_____

(b) Categorize the following metals: (4 marks)

Copper, Mild Steel, Aluminium, Cast Iron

Ferrous: _____ , _____

Non-Ferrous: _____ , _____

(c) List two physical properties of Mild Steel that make it suitable for making window grills. (2 marks)

(i) _____.

(ii) _____.

(d) Identify the form of metal supply shown in the picture. (2 marks)



_____

SECTION B: S (50 MARKS)

5. Chief Lemayian of Samburu has donated funds to build a new Metal Technology workshop at Enkorika Senior School. The headteacher, Mrs. Chepngetich, wants the layout to follow OSHA rules.

(a) Explain the importance of the Emergency Exit and the First Aid Kit in a workshop. (4 marks)

(i) _____.

(ii) _____.

(iii) _____.

(iv) _____.

(b) Describe three effects of a fire accident in a welding workshop on both learners and the school. (6 marks)

(i)

(c) Suggest two ways to prevent "Electrical Shock" accidents when using power machines. (3 marks)

(i) _____.

(ii) _____.

(d) Name two careers this project will provide for the youth. (2 marks)

(i) _____.

(ii) _____.

6. Moraa, a Grade 10 learner, is tasked with marking out a rectangular plate of High Carbon Steel measuring 150mm by 100mm.

(a) Identify the two tools Moraa is using. (2 marks)

(i) _____. (ii) _____.

(b) Explain the difference between an Inside Caliper and an Outside Caliper. (4 marks)

Inside caliper	**Outside caliper**

(c) Moraa finds that her Centre Punch is blunt. Describe how she should maintain it. (3 marks)

(i) _____.

(ii) _____.

(iii) _____.

(d) If Moraa uses a 300mm steel rule to measure three pieces of metal of equal length 85mm:

i. Total length used = _____.

ii. Length remaining = _____. (6 marks)

7. Wekesa runs a small *Jua Kali* workshop in Mumias.

(a) Which material is more suitable for a water tank? Give a reason. (3 marks)

(b) Outline the process of producing Iron from its ore (Blast Furnace process). (4 marks)

(i) _____.

(ii) _____.

(iii) _____.

(iv) _____.

(c) Wekesa uses Tin to coat metal products: (1 mark)

i. Name the process :_____.

ii. State its purpose (2 marks)

(i) _____.

(ii) _____.

(iii) _____.

8. At Starehe Boys Centre, Grade 10 learners are carrying out a **practical bench work lesson** in the Metal Technology workshop. The instructor demonstrates correct use of the **bench vice and hacksaw** while emphasizing safety, proper holding techniques, and understanding material properties such as ductility and malleability.

(a) Identify the safer method of cutting metal and explain why. (3 marks)

(i) _____.

(ii) _____.

(iii) _____.

(b) Name the parts of the Bench Vice that prevent slipping. (2 marks)

_____

_____

(c) Distinguish between Ductility and Malleability. (5 marks)

Ductility	**Malleability**

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