END TERM 3 2026

GRADE 10

METALWORK

PAPER 1 – SUMMATIVE ASSESSMENT

TIME: 2 HOURS 30 MINUTES

Name: _____

Assessment Number: _____

Class / Stream: _____

Date: _____

INSTRUCTIONS TO CANDIDATES

1. Write your name and assessment details in the spaces provided.

2. Read all questions carefully before answering.

3. Answer ALL questions.

4. Show all working and construction steps where required.

5. Use appropriate drawing instruments for technical drawing questions.

6. Label sketches and diagrams clearly.

7. Use correct units and conventions where applicable.

8. All answers must be written in the spaces provided where applicable.

9. Use clear and legible handwriting.

10. Check that all pages and questions are present before beginning.

EXAMINER'S USE ONLY

Section	Question Numbers	Maximum Score	Candidate's Score
A	1–10	30	
B	11–16	30	
C	17–19	20	
D	20–22	20	
TOTAL		100	

SECTION A — FUNDAMENTALS, TOOLS AND MATERIALS (30 marks)

Answer all questions.

1. Define the term metalwork as a learning area and state two reasons for studying metalwork. (3 marks)

2. State three workshop safety rules that should be observed when working with metal. (3 marks)

3. (a) State two examples of hand tools used in a metal workshop. (2 marks)

(b) Give one use for each tool named in (a). (2 marks)

4. Distinguish between a measuring tool and a marking-out tool, giving one example of each. (4 marks)

5. State three factors to consider when selecting a hand or bench tool for a given task. (3 marks)

6. (a) Distinguish between ferrous and non-ferrous metals. (2 marks)

(b) Give two examples of ferrous metals and two examples of non-ferrous metals. (4 marks)

7. State three properties of metals that influence their selection for workshop applications. (3 marks)

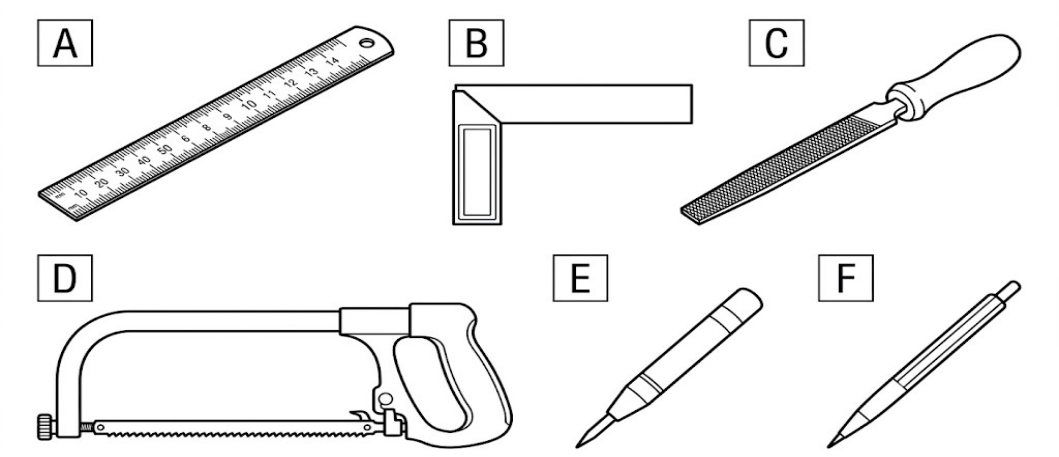
8. State two forms in which metal may be supplied for use in a metal workshop. (2 marks)

SECTION B — MEASURING, DRAWING AND WORKSHOP APPLICATION (30 marks)

Answer all questions.

11. A learner is required to prepare a small sheet-metal component from a rectangular blank. Explain the sequence of operations that should be followed from measurement and marking-out to completion. (6 marks)

12. The following visual is to be used to assess identification of common metalwork tools.



(a) Identify tools A, B and C. (3 marks)

(b) State one use of each of the three tools identified in (a). (3 marks)

13. (a) State three purposes of using scales, symbols, abbreviations and conventions in technical drawing. (3 marks)

(b) Explain the difference between a plane scale and a diagonal scale. (2 marks)

14. (a) What is pictorial drawing? (2 marks)

(b) Name the two pictorial projections studied in Grade 10 Metalwork. (2 marks)

(c) State two characteristics of an isometric drawing. (2 marks)

15. A learner is asked to prepare an isometric sketch of a simple rectangular metal box measuring 80 mm × 50 mm × 30 mm. Construct a neat isometric sketch of the box and show the three given dimensions. (6 marks)

16. State three ways in which good maintenance of measuring and marking-out tools improves workshop work. (3 marks)

SECTION C — METAL JOINING AND SHEET-METAL PROCESSES (20 marks)

Answer all questions.

17. (a) Name three methods of joining sheet metal covered in the curriculum. (3 marks)

(b) State one suitable application for each method named in (a). (3 marks)

18. A learner has to join two pieces of sheet metal permanently. Explain four factors that should guide the selection of the joining method. (4 marks)

19. (a) Explain the following sheet-metal processes: edge treatment, hollowing, sinking and raising. (8 marks)

(b) State two safety precautions to observe when carrying out sheet-metal processes. (2 marks)

SECTION D — INTEGRATED APPLICATION AND PROJECT WORK (20 marks)

Answer all questions.

20. A community has identified a need for a simple metal item that can be fabricated using locally available materials.

(a) State a suitable metal item that could solve a practical community problem. (2 marks)

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(b) Describe the problem the item would solve and the users who would benefit from it. (4 marks)

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(c) Outline four stages you would follow from identifying the problem to presenting the fabricated item. (4 marks)

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21. Explain four ways in which safety, responsibility and care for tools and materials should be demonstrated during a metalwork project. (4 marks)

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22. Prepare a simple labelled project plan for fabricating the item proposed in Question 20. Your plan should show: materials, tools/equipment, major operations, safety precautions and the expected final product. (6 marks)

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END OF QUESTION PAPER