

EKURHULENI NORTH DISTRICT

SUBJECT	TECHNOLOGY
GRADE	9
YEAR	2023
TASK	NOVEMBER EXAM : MEMORANDUM
TIME ALLOCATION	1HOUR 30 MINUTES
MARKS	80

This MEMO consist of 5 pages.

SECTION A: TECHNOLOGICAL PROCESS SKILLS AND GRAPHIC COMMUNICATION

QUESTION 1

1.1 Identify the problem in this scenario?

Grade 8 learners at our school are struggling finding the right pen or pencil and selecting it from a pencil case straightaway . Often this wastes time at the beginning of lessons. ✓✓

1.2 Write a design brief for the given scenario.

I am going to design and make a pencil holder (container) ✓✓

1.3 List TWO specifications for your design.

1.3.1 It will have 3 holes to hold pencils/pens. ✓

1.3.2 It will have a combination of 2 types of plastics. ✓

It will be stable and durable.

Reward learners for any relevant answer.

1.4 List TWO constraints for your design.

1.4.1 Time constrains to complete the project. ✓

1.4.2 Lack of skills (joining skills). ✓

Reward learners for any relevant answer.

1.5. List THREE tools and THREE materials you would use to make the solution to the To the given scenario.

Tools	Materials
1.5.1 Scissors ✓ Craft knife	1.5.4 Plastic 1 : High-density plastic (plastic bottles/ containers)✓
1.5.2 Awl ✓	1.5.5 Plastic 2: Low-density plastic (shopping bag/ bubble wrap/shrink wrap).✓
1.5.3 Glue gun. ✓	1.5.6 Paper/ decorative paper. ✓

Reward learners for any other correct materials and tools given.

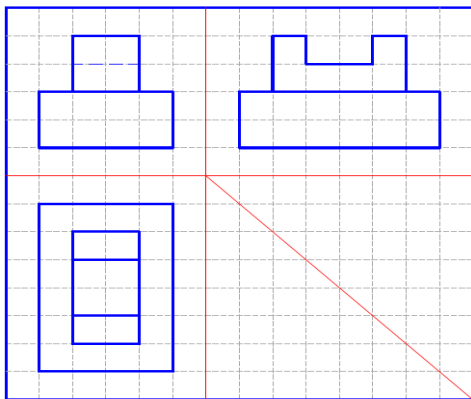
- 1.6. Draw a freehand sketch of the solution to the given problem in the scenario. Your solution(idea) must be innovative and you must use labels and notes to explain your design. Use the space provided below.

Assessment criteria for freehand sketch

Criteria	Maximum marks	Marks obtained
Solution addresses the problem (Design brief), specifications and constraints	2	
Solution is free hand(ruler and other instruments not used)	2	
Innovation and creativity	2	
Labels and notes are used	2	
TOTAL	8	

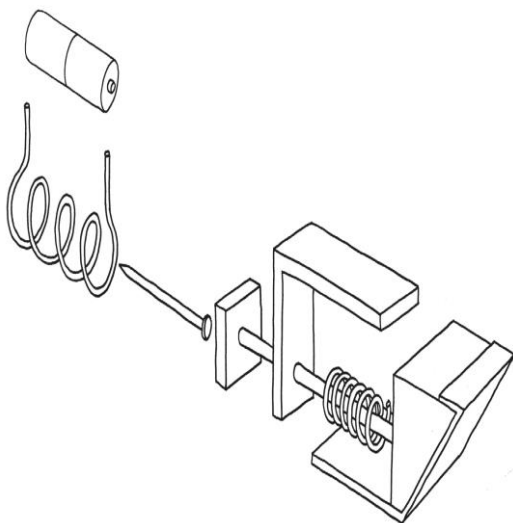
QUESTION 2 : GRAPHIC COMMUNICATION

- 2.1 The given figure below is an isometric view of a model. Use your instruments and draw it in a first-angle orthographic projection. Also, draw a projection symbol. Use the assessment criteria as a guide.



Criteria	Maximum marks	Marks obtained
Views are placed correctly	3	
Views are correctly drawn (Front, top and side view)	3	
Linework	2	
Projection symbol	1	
Neatness	1	
TOTAL	10	

- 2.2 .Use the given information to draw a neat 3D Assembly drawing in exploded view. Use the assessment criteria as your guide.



Criteria	Maximum marks	Marks obtained
Correct technique/ interpretation	3	
Line work (Outlines, Construction lines, Hidden Details)	3	
Neatness	2	
Total	8	

SECTION A: 40 MARKS

SECTION B: TECHNOLOGICAL KNOWLEDGE AND UNDERSTANDING

QUESTION 3

MULTIPLE CHOICE QUESTIONS

(4/2 = 2)

3. Read the following statements carefully and **CIRCLE** the correct answer.

3.1 D

3.2 C

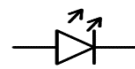
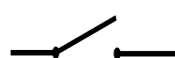
3.3.D

3.4 C

QUESTION 4

Complete the following table by writing the name and drawing the symbol for each component.

(8/2=4)

COMPONENT	NAME OF COMPONENT	SYMBOL
4.1 	Transistor	
4.2 	LED / light emitting diode	
4.3 	Resistor	
4.4 	Switch	

QUESTION 5

Match the description in Column A to the correct answer in Column B. Write only the letter of the correct answer in the space provided.

5.1. D ✓

5.2. E ✓

5.3. A ✓

5.4. C ✓

QUESTION 6

6.1 Complete the truth table for the circuit shown below

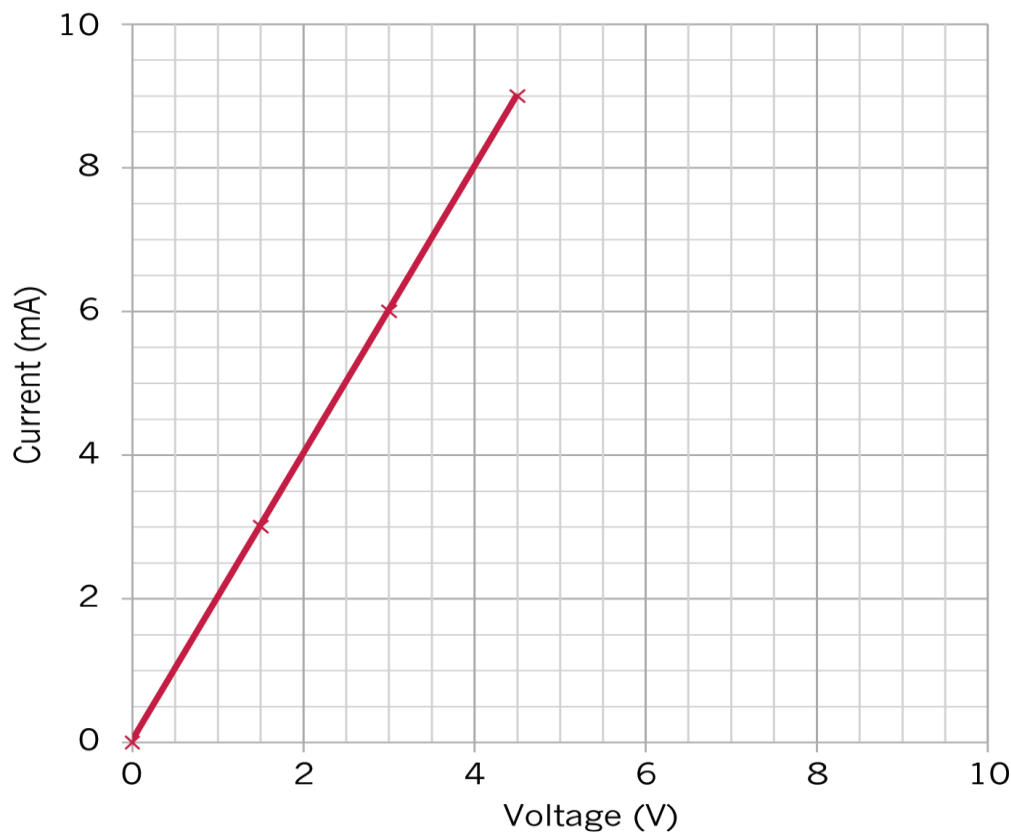
(4/2=2)

INPUT	INPUT B	OUTPUT
0	0	0
0	1	0
1	0	0
1	1	1

6.2. A practical investigation was conducted on a relationship between potential difference (voltage) and the current in an electrical circuit. The readings below were recorded.

6.2.1 Plot these readings below.

(3)



Allocate a mark for each reading plotted correctly.

6.2.2. What important conclusion can we reach from these readings and the graph?

There is a direct proportional relationship between voltage and current. ✓ As the voltage is doubled, the current also doubled, and as the voltage as it tripled the current also tripled. ✓

6.3. Calculate the value of the voltage supply in the circuit below if the resistor has a value of $4\ \Omega$ and the current through the resistor is 2,5 A.

$$V = I \times R \quad \checkmark$$

$$= 2,5\ \text{A} \times 4\ \Omega \quad \checkmark$$

$$= 10\ \text{V} \quad \checkmark$$

6.4 Refer to the resistor colour code table below and determine the colours of the resistor with a value of $470\Omega \pm 5\%$.

Colours:

Band 1 = Yellow ✓

Band 2 = Purple/ Violet ✓

Band 3 = Brown ✓

Band 4 = Gold ✓

SECTION B: 24 MARKS

SECTION C: VALUES AND ATTITUDES

QUESTION 8

7.1 Critically discuss THREE advantages of pickling as a method of food preservation.

7.1.1 Pickled food can be kept without refrigerating it for a long time. ✓ ✓

7.1.2 Many different types of food can be pickled. ✓ ✓

7.1.3 Pickling adds to the taste and flavour of food, and many people eat pickles for this reason. ✓ ✓

Reward learners for any relevant response

7.2 Critically discuss THREE disadvantages of pickling as a method of food preservation.

7.2.1 Taste of pickled food is permanently altered (once food is pickled, it not go to its original taste). ✓ ✓

7.2.2 Pickled food is considered as a high sodium product which may cause rise in blood pressure (hypertension). ✓ ✓

7.2.3 Specific ingredients and materials are needed to pickle food. ✓ ✓

Reward learners for any relevant response

7.3 Load shedding is affecting South Africans in many ways. How does food preservation solve food spoilage problem?

Foods that would have been wasted through spoilage, is preserved. ✓ ✓

Reward learners for any relevant response

7.4 How does the increase of wastage of food due to spoilage negatively affect the environment. Provide TWO

7.4.1 When food is wasted, all the energy and water it takes to grow, harvest, transport, and package it is also wasted. ✓

7.4.2 If food goes to the landfill and rots, it pollutes the environment. ✓

Reward learners for any relevant response

SECTION C : 16 MARKS