education
Department of Education
FREE STATE PROVINCE

# TECHNOLOGY

## GRADE 7

## NOVEMBER 2025

## MARKS: 60

## TIME: 1 hour

**LEARNER:** _____

**SCHOOL:** _____

**CLASS:** _____ **DATE: 21 November 2025**

| | LEARNER'S MARKS/60 | LEARNER'S MARKS/30 |
|---|---|---|
| SECTION A | | |
| SECTION B | | |
| SECTION C | | |
| TOTAL | /60 | /30 |

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**This question paper consists of 11 pages.**

## INSTRUCTIONS

1. Answer all questions on the question paper.
2. Consult the rubrics and marks allocated to guide you when answering the questions.
3. This question paper consists of **THREE SECTIONS**, answer all **THREE SECTIONS**.
4. Use a pencil for all drawings.
5. Make sure you read and follow the instructions for each question correctly, otherwise marks will be deducted.

**SPECIFIC AIMS ASSESSED**

SPECIFIC AIM 1: TECHNOLOGICAL PROCESSES AND SKILLS (50%)
SPECIFIC AIM 2: TECHNOLOGICAL KNOWLEDGE AND UNDERSTANDING (30%)
SPECIFIC AIM 3: TECHNOLOGY, SOCIETY, AND THE ENVIRONMENT (20%)

| **SPECIFIC AIMS** | | |
|---|---|---|
| **SECTION A** | SPECIFIC AIM 1 | **30 MARKS** |
| **SECTION B** | SPECIFIC AIM 2 | **18 MARKS** |
| **SECTION C** | SPECIFIC AIM 3 | **12 MARKS** |

| **COGNITIVE LEVELS** | | | |
|---|---|---|---|
| **COGNITIVE L1** | **COGNITIVE L2** | **COGNITIVE L3** | |
| **LOW ORDER** | **MIDDLE ORDER** | **HIGH ORDER** | **TOTAL** |
| 30% | 40% | 30% | 100% |
| 18 marks | 24 marks | 18 marks | 60 |

# SECTION A

## SPECIFIC AIM 1: DESIGN PROCESS SKILLS

## QUESTION 1

Multiple choice questions:

Read each question and **CIRCLE** the letter of the correct answer for each question.

1.1 Which of the following is an example of a specification that would be included in a design brief? (1)

A. You have three hours for the task.
B. The crane must include a pulley and a crane mechanism.
C. Take care when working with scissors.
D. Work as part of the team

1.2 The features of a product or system that makes it user-friendly. (1)

A. Ergonomics
B. Design
C. Drawing
D. Aesthetics

1.3 The third Stage of the Design Process is…. (1)

A. Constraints.
B. Communicate.
C. Make.
D. Drawing.

1.4 _____ is a rough drawing to later assist in rendering a more detailed drawing. (1)

A. A photograph
B. A working drawing
C. A diagram
D. A freehand sketch

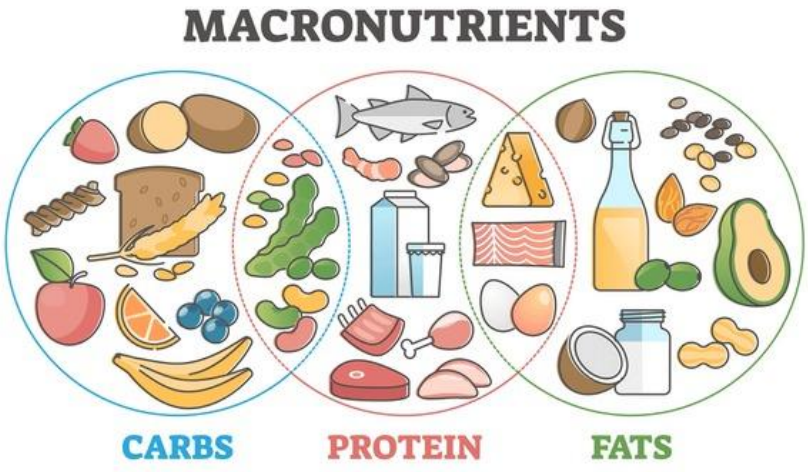
1.5 During the Make Stage we use _____ to provide clear instructions on how to manufacture and assemble the final product. (1)

A. System diagrams.
B. Freehand sketches.
C. Technical drawings.
D. Working drawings.

**[5 Marks]**

## QUESTION 2

Match the terms used in Column A with the correct descriptions of those terms in Column B. Write **ONLY THE LETTER** next to the number (**e.g., 2.1 E**)




| COLUMN A | COLUMN B | ANSWER |
|---|---|---|
| 2.1. Bread | A. Fats | |
| 2.2 Chicken | B. Carbohydrates | |
| 2.3 Bell Peppers | C. Proteins | |
| 2.4 Avocado | D. Vitamins | |

**[4 Marks]**

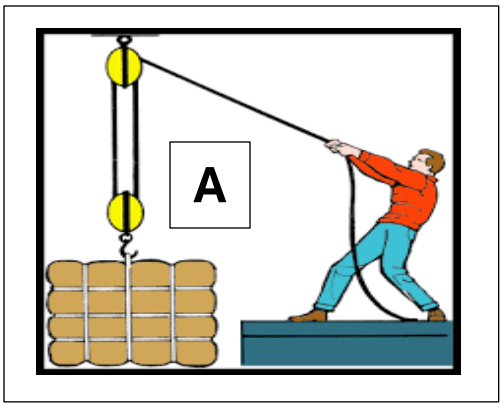
## QUESTION 3

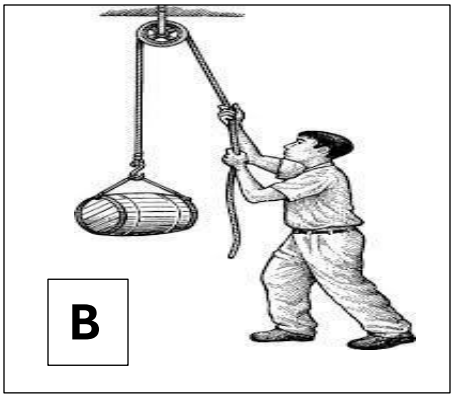
3.1 Complete the table below by classifying the given objects with an X.

| Object | Metal | Non-metal | Magnetic | Non-magnetic |
|---|---|---|---|---|
| 3.1.1 Drawing pins | | | | |
| 3.1.2 Plastic caps | | | | |
| 3.1.3 Nails | | | | |
| 3.1.4 Plastic Ruler | | | | |

[8 ÷ 2] = **[4 Marks]**

3.2 Study the pulleys in picture A and picture B.




3.2.1 Which pulley system provides a mechanical advantage? Why?

_____

(1)

3.2.2 What do you think is the main purpose of using a pulley system ?

_____

(1)

3.3 Illustrate the Design Process by means of a diagram:

(5)

**[11 Marks]**

## QUESTION 4

Thabang Motseki is a pet shop owner who has been asked by his loyal customers to supply an automatic pet feeder. Some customers have holiday homes and go on weekends. They don't always want to take their small pets such as birds, hamster or mice with them because this is inconvenient. Small animals need very little care and can be left for short periods, as long as they are fed and watered. The local pet shop owner has carried out a survey in which he found and saw a need for automatic pet feeder

4.1 Name the product to be designed. (1)

_____

4.2 Who is this product for? (1)

_____

4.3 What is its purpose of this product? (1)

_____

4.4 Suggest three things to ensure the product is safe. (3)

_____

_____

_____

4.5 Why is it important to ensure that the product looks good? (2)

_____

_____

4.6 State three ways in which Thabang can ensure that his product does not affect the environment negatively when making your product. (3)

_____

_____

_____

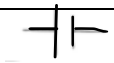
**[10 Marks]**
**Total Marks Section A: 30 Marks**

# SECTION B

## SPECIFIC AIM 2: KNOWLEDGE AND UNDERSTANDING

## QUESTION 5

5.1 Arrange electrical symbols with the correct name from the second column.

| Electrical Component | | Name | Answer |
|---|---|---|---|
| 5.1.1 |  | A. Electromagnet | 5.1.1 |
| 5.1.2 |  | B. Bulb | 5.1.2 |
| 5.1.3 |  | C. Buzzer | 5.1.3 |
| 5.1.4 |  | D. Cell | 5.1.4 |
| 5.1.5 |  | E. Open switch | 5.1.5 |

**[5 Marks]**

5.2 Draw a circuit diagram with the following components:

- A cell (1)
- Conductors (1)
- An open switch (1)
- A bulb (1)

**[4 Marks]**

## QUESTION 6

Define the following:

6.1 What is technology?

_____

_____ (1)

6.2 Impact of technology

_____

_____ (1)

6.3 Current

_____

_____ (1)

6.4 Mechanical advantage

_____

_____ (1)

6.5 Refugees

_____

_____ (1)

**[5 Marks]**

## QUESTION 7

The following statements are **false**. Using what you have learned, rewrite the statements to make them **true**.

7.1 Electromagnets are permanent magnets.

_____

_____ (1)

7.2 Recycling means to utilise new material to make new products

_____

_____ (1)

7.3 There is a delay in the movement of a hydraulic system because gasses compress.

_____

_____ (1)

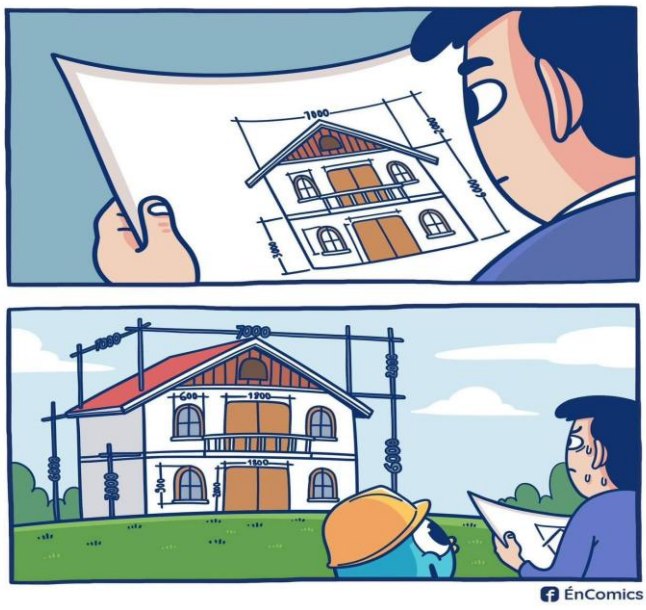
7.4 Salting is a method to reuse materials.

_____

_____ (1)

**[4 Marks]**

**Total Marks Section B: 18 Marks**




**TURN TO THE NEXT PAGE FOR SECTION C**

# SECTION C:

## SPECIFIC AIM 3: TECHNOLOGY, SOCIETY AND THE ENVIRONMENT

## QUESTION 8

SCENARIO




Imagine you and your family are on a cruise ship on your way to an exotic holiday. After a terrible storm the ship sinks and you are stranded on a deserted island. Every night there are torrential storms. In your possession you have only a few candles, matches, a bottle of paraffin, a small amount of food and water and a pocketknife.
Some debris has also washed ashore, including old bed sheets.
To keep your family warm and safe you need to build a shelter. The shelter needs to be waterproof. It must be made from materials that you have in your possession or that you would find on the island. It needs to be stable, strong and durable.

8.1 Answer the following questions.

8.1.1 Write a design brief.

_____

_____

_____

_____ (2)

8.1.2 List two specifications.

_____

_____

_____

_____ (2)

8.1.3 List two constraints.

_____

_____ (2)

8.1.4 Design 3D oblique drawing of your solution (4)

8.5 Analyse the impact that a shipwreck could have on the environment. (Consider, specifically, oil tankers.)

_____

_____

_____ (1)

8.6 Determine the best method to waterproof your shelter using the resources you have available.

_____

_____

_____

_____ (1)

**Total Marks Section C: 12 Marks**

**GRAND TOTAL: 60**