



TOM NEWBY SCHOOL JUNE EXAM



1

Subject	Technology	Examiner	Mrs M. Fourie
Date	June 2021	Total marks	60
Session		Duration	1 hour
Grade	7	Moderator	Miss M. Mpesu
Special instructions/ Equipment	1. Write neatly and eligibly. 2. Use a pencil and colouring in pencils for your drawing. 3. Answer all questions. 4. Good luck. Don't ink before you think!		
This assessment has been compiled using notes and information contained in the Tom Newby School resource material. The marking memorandum has been compiled accordingly. While alternative responses will be given due acknowledgement, the official memorandum will be considered a priority document to ensure uniformity of marking.			

Name:	Surname:	Class:
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SECTION A: TECHNOLOGICAL KNOWLEDGE AND UNDERSTANDING [18]

QUESTION 1: Multiple choice (6)

Read each statement and write the letter, which represents the correct answer in the text box below.

1.1 In a first class lever the _____

- a) The fulcrum is always on the right hand side of the lever.
- b) The load is between the fulcrum and the effort.
- c) The fulcrum is between the effort and the load.

1.2 When we investigate in our design process we _____

- a) Start drawing up our design brief
- b) Gather all information
- c) Communicate our design process

1.3 Construction lines are _____

- a) Continuous light-coloured lines
- b) Thick and dark
- c) Thin, continuous lines that are used to help construct other lines.

1.4 The standard measurement unit used in drawings is _____

- a) mm
- b) km
- c) cm

1.5 The best way of reinforcing a structure using suitable materials is _____

- a) Tubing
- b) Triangulation
- c) Folding

1.6 A linkage is used to _____

- a) change the direction of movement
- b) change the distance of movement
- c) All of the above

QUESTION 2: Match the columns (5)

Match the statement in Column A with the answer in Column B. Write the letter of the answer that you have chosen on the answer grid.

COLUMN A	COLUMN B
2.1 People who are skilled in a specific trade.	A Scale
2.2 People who design, build or maintain engines, machines or public works.	B Hydraulic system
2.3 The length and width in the drawing that represents 1:10	C Lever
2.4 Uses a liquid such as oil or water to make things move.	D Artisan
2.5 It is a machine that makes our lives easier.	E Graphic designer
	F Pneumatic system

Answer Grid

2.1	2.2	2.3	2.4	2.5
_____	_____	_____	_____	_____

Hang in there!
We will get
through this!



QUESTION 3: Identify and name images (10)

3.1 Look at the images below. Write down the name of each image. Now, identify if it is a shell, a frame or a solid structure and if it is man-made or natural. (6)

**IMAGE A****IMAGE B****IMAGE C****IMAGE D**

	Name of image	Classification of structures	Man-made or Natural
IMAGE A			
IMAGE B			
IMAGE C			
IMAGE D			

3.2 What is a structure? Provide a suitable definition.

_____ (2)

3.3 Study the pictures below and indicate which class of levers each one represents. (2)

**IMAGE A****IMAGE B**

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SECTION B: DESIGN PROCESS, SKILLS AND GRAPHIC COMMUNICATION

QUESTION 4: Read the Scenario 1 and complete the following activities: **(15)**

4.1. Write the design brief for the given scenario.

(2)

4.2 List **FOUR** design specifications for the solution.

4.2.1

4.2.2

4.2.3

4.2.4

 (4)

4.3 List **THREE** constraints for the solution.

4.3.1

4.3.2

4.3.3

 (3)

4.4 List **THREE** materials and **THREE** tools you will use to make the solution. (6)

Materials	Tools
4.4.1	4.4.4
4.4.2	4.4.5
4.4.3	4.4.6

(Any relevant materials and tools)

SCENARIO 1

The Emergency rescue workers in Benoni need a rescue tool, as they often have to cut through the frame of a car or twisted wreckage to free victims of accidents. A car frame is very thick, so they need very special tools. They use a special hydraulic cutter called the Jaws-of -Life. The rescue service company asked you to design and make a model of a Jaws- of- Life rescue tool for them to use for the many accidents that is happening in Benoni lately.

Your model should:

- operate to cut or prise open crumpled metal,
- work with linked levers which is the hydraulic system at the back and the blades in the front.
- be attached to a flat piece of card that will act as a base, and
- be powered by a hydraulic system and have cutters or spreaders at the front.

4.5 Draw a 2D (One view) of your Rescue system in the space provided below and indicate which view you have drawn. Also label your drawing. Follow the rubric.

RUBRIC: CRITERIA	POSSIBLE MARK	MARKS OBTAINED
Is the drawing a 2D (Flat drawing)?	2	
Is the correct view indicated?	2	
Is the drawing labelled with materials and tools?	3	
TOTAL	7	

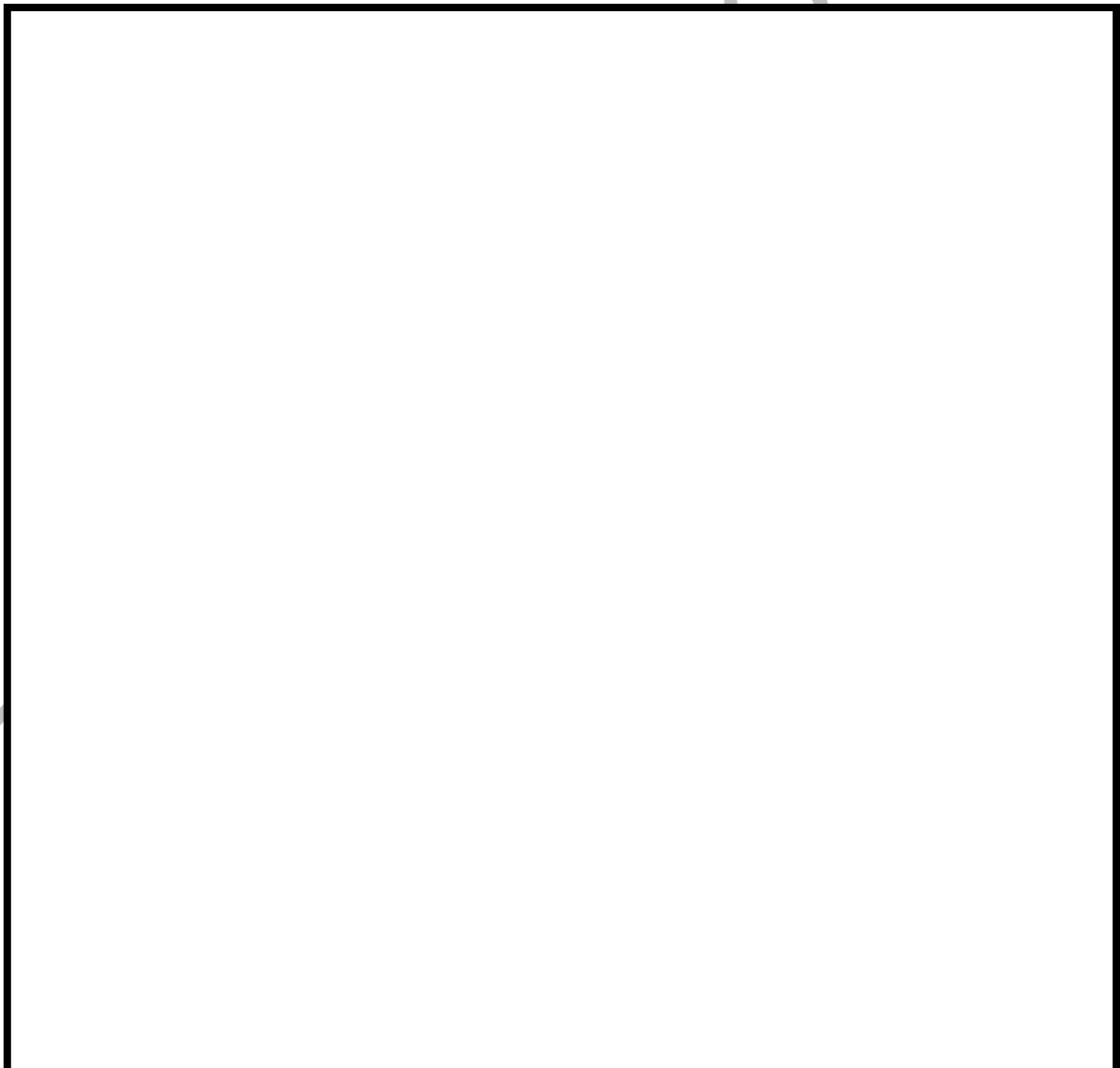
QUESTION 5: Drawing using different types of lines (5)

The drawing below is a 3D oblique . Redraw it in the text box below. Show all the different types of lines as in the given drawing.

Look at the marking guideline:



MARKING GUIDELINE		
DESCRIPTOR	POSSIBLE MARK	MARKS
Correct technique / interpretation (3D oblique)	2	
Outlines	1	
Feint lines/ hidden lines	1	
Neatness	1	
	5	



SECTION C: TECHNOLOGY, SOCIETY AND THE ENVIRONMENT

Read the following case study and answer the questions that follow: **(12)**

Cell phones vs landline phones -Although you might have grown up with them, cell phones are fairly new technology. They were developed in the late 1970's by the Motorola company. In 1977, Motorola created the DynaTAC, which was the first working prototype of a cell phone. It had an LCD display and up to 30 minutes of talk time when fully charged.

Nowadays, cell phones are very common. Used by millions of people, they have completely changed the way we communicate. The cell phones that we use today are very different to the first cell phones and include features like cameras and music players. It is also very different from the first landline phones.

Landline phones

Alexander Graham Bell invented the first telephone in 1876. Sound and speech were part of Bell's life from a young age. Bell experimented with sound waves that could be converted into electric current, then the current could then be reconverted into sound waves, identical to the original at the other end of the circuit. By 1876, the first intelligible telephone was made. Bell was in his laboratory with a transmitter. In the bedroom, his assistant Watson, waited with a receiver pressed against his ear. Bell shouted into the mouthpiece "Mr Watson, come here, I want to see you" and to his delight he came and he declared that he heard and understood what Bell said.



6.1. Who invented the first telephone and when?

_____ (2)

6.2. Who invented the first cell phone and what was the prototype called?

_____ (2)

6.3. How did Watson and bell hear each other during their experiment?

_____ (1)

6.4 Give **THREE** disadvantages of using landline phones

a) _____ (1)

b) _____ (1)

c) _____ (1)

6.5 Give **THREE** advantages of using a cell phone.

a) _____ (1)

b) _____ (1)

c) _____ (1)

6.6. Name **ONE** cellular network that we find in South Africa today.

_____ (1)

Total: 60

PERFORMANCE ANALYSIS GRADE 7 TECHNOLOGY JUNE 2021

NAME OF LEARNER: _____ GRADE 7: _____

SECTION	SPECIFIC AIM	ALLOCATED MARKS	MARKS OBTAINED	MODERATED MARK
A	TECHNOLOGICAL KNOWLEDGE AND UNDERSTANDING	18		
B	DESIGN PROCESS SKILLS & GRAPHIC COMMUNICATION	30		
C	TECHNOLOGY, SOCIETY AND THE ENVIRONMENT	12		
TOTAL		60		