Index Number: ....

NATIONAL CERTIFICATE OF EDUCATION

2023

TECHNOLOGY STUDIES (N550)
Component 1

TIME: 1 HOUR 15 MINUTES

Candidates answer on the Question Paper.
Additional materials: Standard drawing equipment

READ THESE INSTRUCTIONS FIRST

1.   Write your index number in the space provided above and on the A3 printed question sheet.
2.   Write in dark blue or black ink. Coloured and HB pencils may be used for diagrams/sketches and shading.
3.   Answer **ALL** questions.
4.   Check whether this assessment booklet consists of:
     • Questions **1 - 7** printed on **8** pages from page **2** to page **9**;
     • Question **8** printed on an **A3** sheet of paper as an insert.
5.   Do not use correction fluid, highlighters or glue.
6.   All answers must be written in the spaces provided.
7.   The total marks for each question is given at the beginning of each question.
8.   The number of marks for each item is shown in brackets [ ].
9.   **Question 8**:
     • All drawings must be accurately drawn using drawing instruments.
     • All construction lines **MUST** be shown.
     • All dimensions are in millimetres.
10. The total number of marks for this paper is **50**.
11. **At the end of the examination, fold the A3 sheet and insert it in the assessment booklet.**

For Examiners' use											
Question No.	1	2	3	4	5	6	7	8(a)	8(b)	Total	Signature
Examiner											
Team Leader											
CE/ACE											

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SECTION A

Question 1 (5 marks)

Circle the correct answer. Each item carries one mark.

1.   Which **one** of the following tools is a coping saw?

      A   **B**

      C   **D**

2.   The drawing equipment shown in **Figure 1** is ……………………………. .

Figure 1

    A   a drafting tape   **B**   a measuring tape

    C   an engineer's square   **D**   a set square

3. Which **one** of the following objects is made from metal?

A

Manhole cover

B

Book

C

Gloves

D

Basket

4. Which type of motion follows a circle?

A   Rotary

B   Linear

C   Reciprocating

D   Oscillating

5. Which **one** of the following eco labels represents 'carbon footprint'?

A

B

C

D

Question 2 (5 marks)

Put a tick (✓) in the appropriate column to indicate whether the statements in the table below are **True** or **False**. The first one has been done for you.

Statement	True	False
Example: Tin is a malleable metal.	✓	
a Compasses are used to draw circles.		
b A try square is used to draw perpendicular lines on metals.		
c Bamboo stems and fibres are examples of eco materials.		
d Hardwood trees have needle-like leaves.		
e Copper is a good conductor of electricity.		

E

TL

CE

Question 3 (5 marks)

Fill in the blanks with the appropriate word(s) from the list given below. An example is given.

Snips	**Mild steel**	**Aluminium**
Thermoplastics	**Biodegradable materials**	
~~**turbines**~~	**Teak**	

*Example: Wind **turbines** convert movement energy into electrical energy.*

a)   …………………………………… decay naturally.

b)   …………………………………… is used to make cooking foil.

c)   …………………………………… is an expensive timber.

d)   …………………………………… rusts easily.

e)   …………………………………… are used to cut sheet metals.

E

TL

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Question 4 (5 marks)

Match the tools shown in **Column A** to their corresponding names in **Column B**. An example is given.
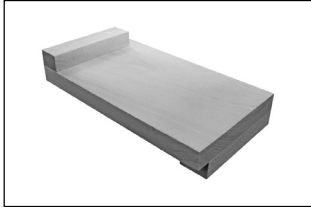
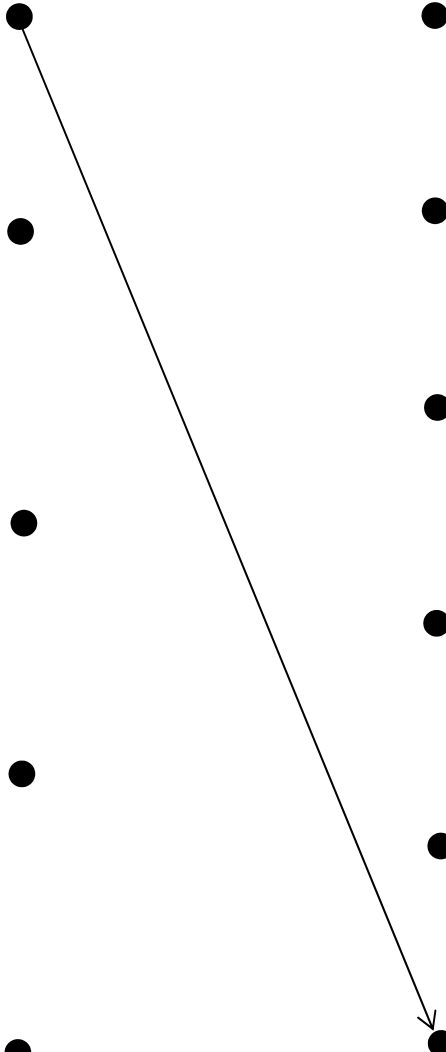| **Column A**	**Column B**

● Screw driver

● Power drill
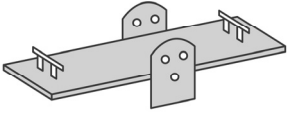
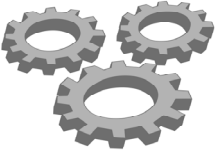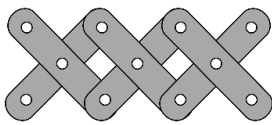● Centre punch

● Mallet

● G-clamp

● Bench hook

● Pencil

Question 5 (6 marks)

(a)   Name each mechanical component in the table below. Choose from the given list. The first one has been done for you.

lever	linkage	gear
pulley		cam

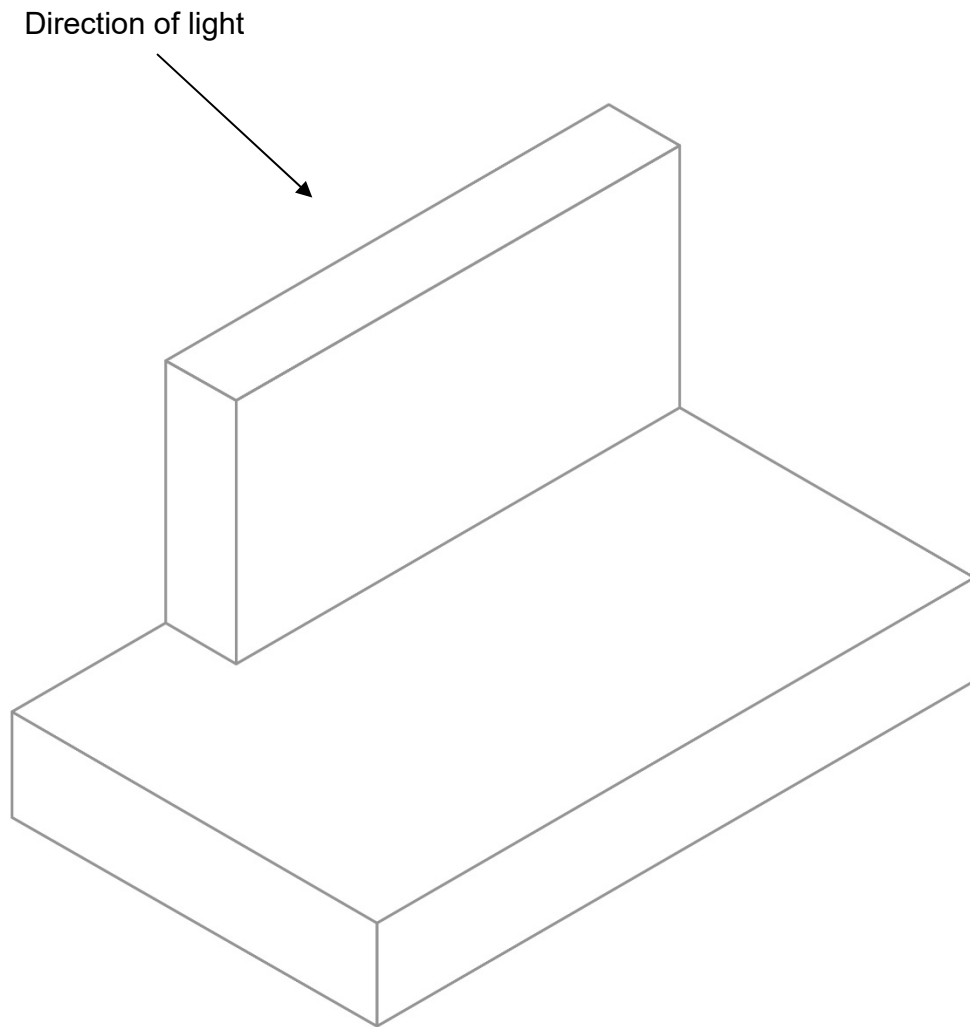| Mechanical component	Name
Example:	lever
	…………………………………..
	…………………………………..
	…………………………………..

[3]

(b)   Sketch a hammer in the space provided below.

[3]

E

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CE

SECTION B

Question 6 (4 marks)

Figure 2 shows an isometric drawing of a shaped block.

Apply tone shading techniques using pencils and/or coloured pencils. The arrow shows the direction of light.
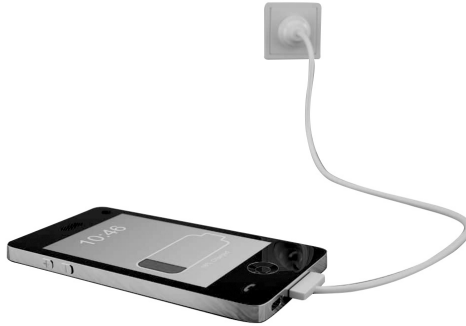
Direction of light

Figure 2: Isometric drawing of a shaped block

Question 7 (5 marks)

Figure 3 shows a smartphone being charged. A holder is required to hold the smartphone while it is charging.

Figure 3: Smartphone being charged

In the space provided, sketch **one** idea for the holder and complete the analysis for the material(s) used and its safety.

Material(s) used:

………………………………

………………………………

Safety:

……………………………

……………………………

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