

Name:		Grade 9:
TECHNOLOGY		TERM 3
Design and build a head torch		70 MARKS
Investigate		10
Design		10
Make		10
Evaluate		10
Communicate		10
Neatness		5
Creativity		5
Original work		5
Given on the due date		70

* Due Date: 1/9/2021
* Can be dropped off with SECURITY AT School Gates

- Instructions**
1. Answer all the questions.
 2. Write neatly and clearly.
 3. All sketches or drawings must be done in pencil with labels in pen.
 4. Write your name, class and the initial of your teacher on your answer sheet.
 5. Number the questions as they appear on the question paper.
 6. Read the questions and instructions for each question carefully.

Question 1 [13 marks]

1.1 Match the actual components in Column A to the component symbols in Column B. Write only the number of the question and the correct letter from Column B. (5)

Column A Actual component	Column B Component symbol
1.1.1	A
1.1.2	B
1.1.3	C
1.1.4	D

GRADE 9
TECHNOLOGY
* WORK MUST BE
DONE IN NOTEBOOK

1.1.5	E
	F
	G

- 1.12 Use a pencil to draw an electrical circuit diagram that consists of the following components: (5)
- Two cells in series
 - One switch
 - Two bulbs in parallel
- 1.13 A generator has a resistance of 15Ω and it generates a current of 2A. Calculate the voltage that it will supply. (3)

Question 2 [9 marks]

- 2.1 Explain the following terms that are associated with switches: (2)
- 2.1.1 Throw
 - 2.1.2 Pole
- 2.2 Explain how the following electronic components function: (4)
- 2.2.1 Diode
 - 2.2.2 LED
- 2.3 Classify the following into input, control or output devices: (3)
- 2.3.1 Thermistor
 - 2.3.2 LED
 - 2.3.3 Solar cell

Question 3 [8 marks]

- 3.1 Draw an equivalent circuit for the logic gate on the left: (3)
- 3.2 Use your knowledge of series and parallel circuits and logic gates and design a circuit that has three switches that must be connected so that they can be used as panic buttons for an alarm circuit. (5)

