

**GAUTENG PROVINCE**  
EDUCATION  
REPUBLIC OF SOUTH AFRICA

**GAUTENG DEPARTMENT OF EDUCATION  
PROVINCIAL EXAMINATION  
NOVEMBER 2019  
GRADE 6**

<b>NATURAL SCIENCES AND TECHNOLOGY</b>	H.O.D. INTERMEDIATE PHASE MODERATED 09-11-2019 G. Botes:
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<b>DISTRICT</b>	
<b>SCHOOL NAME</b>	
<b>EMIS NUMBER</b>	
<b>CLASS (e.g. 6A)</b>	
<b>SURNAME</b>	
<b>NAME</b>	Memo

<b>GENDER:</b>	<b>BOY</b>		<b>GIRL</b>	
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**TIME: 1 hour**

**MARKS: 50**

**11 pages**

## SECTION A

## ANSWER SHEET

## QUESTION 1

- 1.1 B ✓ Energy
- 1.2 D ✓ Buzzer
- 1.3 C ✓ Solar system
- 1.4 A ✓ Revolution
- 1.5 C ✓ Robot

[5]

## QUESTION 2

- 2.1 Coal ✓
- 2.2 Radio telescope ✓
- 2.3 Watts ✓
- 2.4 Metal spoon ✓
- 2.5 planets ✓

[5]

## QUESTION 3

- 3.1 C ✓ Switch
- 3.2 A ✓ Non-renewable
- 3.3 E ✓ Battery
- 3.4 B ✓ Telescope
- 3.5 D ✓ Astronaut [5]

## QUESTION 4

- 4.1 Asteroids ✓
- 4.2 Rotation ✓
- 4.3 New Moon ✓
- 4.4 Copper/Metal/Conductor ✓
- 4.5 Water ✓

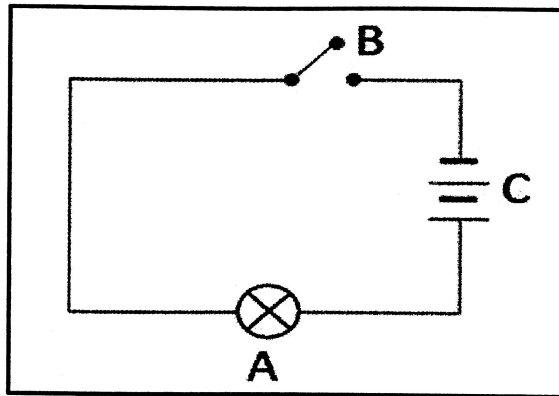
[5]

TOTAL SECTION A: 20

**SECTION B**

**QUESTION 5**

5.1 Study the following diagram of a simple circuit representation.



5.1.1 Label the parts marked:

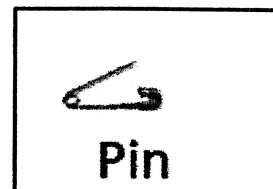
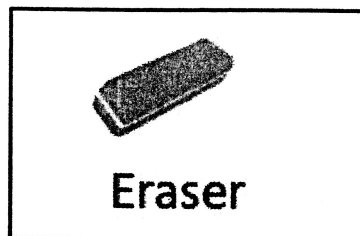
- A Bulb ✓ (1)
- B Switch ✓ (1)
- C Battery/Cells ✓ (1)

5.1.2 The part marked A will (produce light / not produce light). ✓ (1)

5.1.3 Give a reason for your answer to Question 5.1.2.

The switch is open ✓ (1)

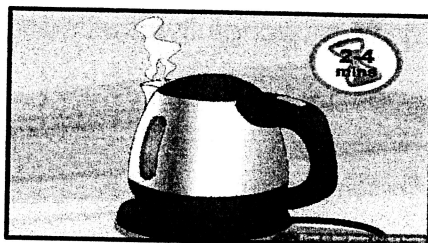
5.2 Look at the pictures below. Complete the table by saying which substance will conduct electricity and which will not.



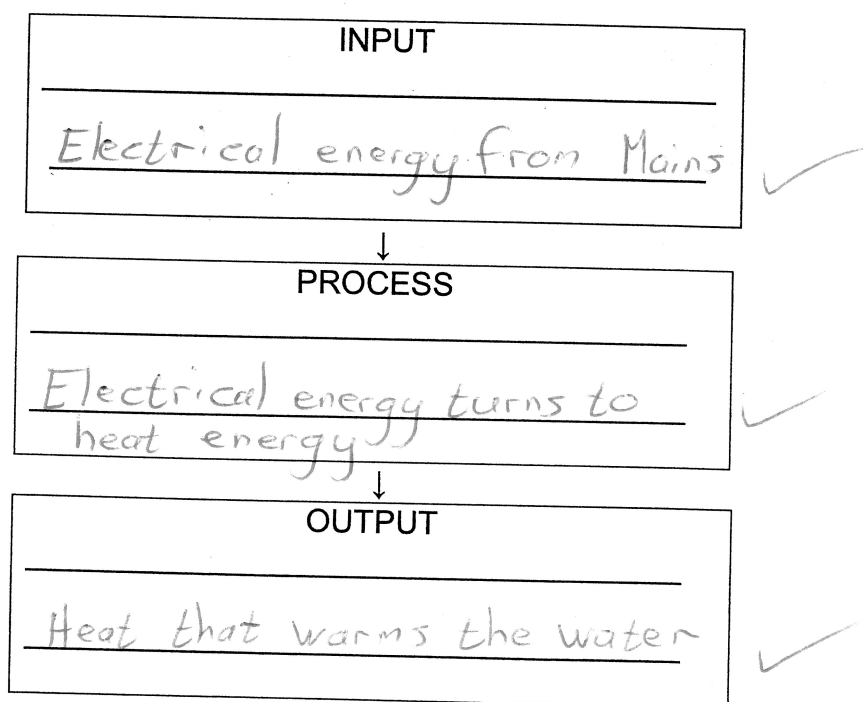
Conductor	Insulator
<u>Pin</u> ✓	<u>Eraser</u> ✓

(2)

5.3 The following picture shows a kettle in which water is boiling.

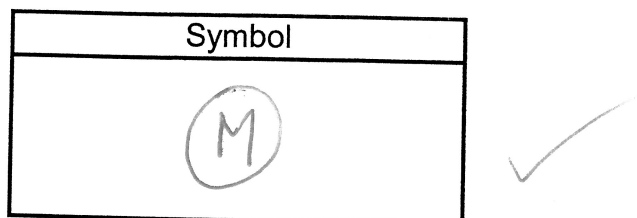


5.3.1 Complete the process below by indicating what is happening in each part of the flow diagram.



(3)

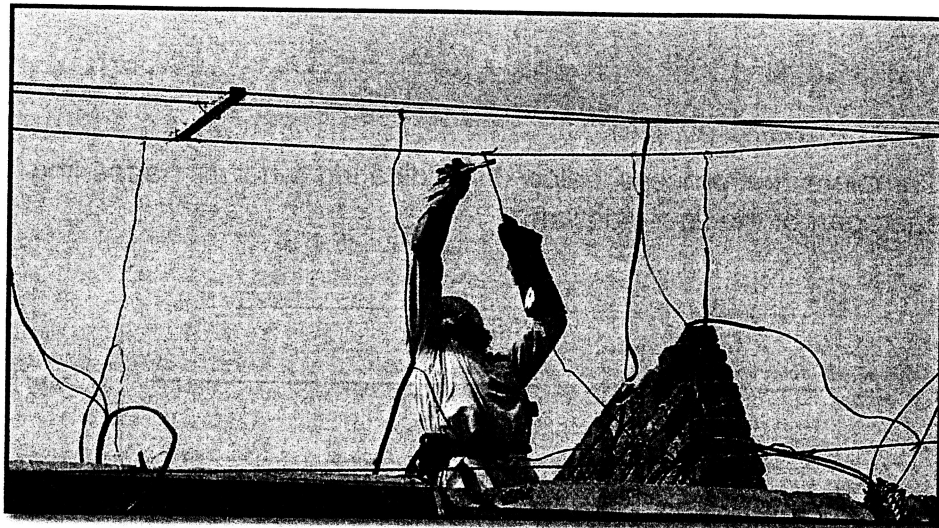
5.3.2 A specific part in a hair dryer makes the fan's blades turn. Draw the symbol for this part.



(1)  
[11]

**QUESTION 6**

The picture below shows how electricity is wrongfully directed to homes and used there.



6.1 What do we call this way of joining electricity?

Illegal connection ✓

(1)

6.2 Why is this way of joining electricity dangerous or unsafe?

You can get shocked/killed ✓

(1)

6.3 Name ONE way that electricity can be saved in our homes.

Turn off appliances that you don't use ✓  
Energy saving light bulbs / solar geysers (1)

6.4 Name ONE factor that contributes to the cost of electricity.

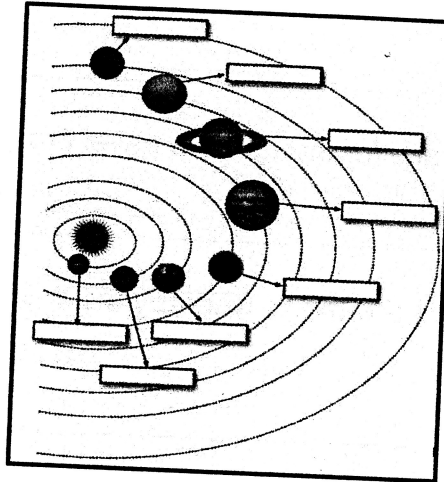
Infrastructure or ... ✓

(1)

[4]

**QUESTION 7**

7.1 Our solar system is shown below. Look at the illustration and answer the questions.



7.1.1 In what type of orbit do the planets travel around the sun?

ellipse ✓ (Oval, anti-clockwise) (1)

7.1.2 Between which two planets do we find the asteroid belt?

Mars and Jupiter ✓ (1)

7.1.3 Why does the surface of Mars appear to be red?

Covered in Red dust ✓ (1)

7.1.4 Which planet is the coldest? Why is it the coldest?

Neptune ✓, furthest from the sun ✓ (2)

7.1.5 Which celestial body is at the centre of our solar system?

Sun ✓ (1)

- 7.2 7.2.1 What do we call the movement of the planets around the sun?  
Revolution ✓ (1)
- 7.2.2 Which phenomenon takes place as a result of the Earth's rotation?  
Day & Night ✓ (1)
- 7.2.3 How long does it take for the Earth to travel around the sun?  
365,25( $\frac{1}{4}$ ) days or 1 year ✓ (1)
- 7.2.4 Name the phase of the moon whereby the whole of the moon can be seen.  
Full Moon ✓ (1)
- 7.2.5 Briefly explain what a leap year is.  
Every 4th year, February has 29 days ✓ (1)

[11]

**QUESTION 8**

- 8.1 Explain the following acronyms:
- 8.1.1 SALT: Southern African Large Telescope ✓ (1)
- 8.1.2 SKA: Square Kilometre Array ✓ (1)
- 8.2 In which town in the Northern Cape is SALT situated?  
Sutherland or Karoo ✓ (1)
- 8.3 What is the purpose of rovers on Mars and the moon?  
Help us to explore or ... ✓ (1)

[4]

**TOTAL SECTION B: 30****GRAND TOTAL: 50**