



GAUTENG PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

GAUTENG DEPARTMENT OF EDUCATION

PROVINCIAL EXAMINATION

NOVEMBER 2019

GRADE 6

**NATURAL SCIENCES AND
TECHNOLOGY**

DISTRICT	
SCHOOL NAME	
EMIS NUMBER	
CLASS (e.g. 6A)	
SURNAME	
NAME	

GENDER:	BOY		GIRL	
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TIME: 1 hour

MARKS: 50

11 pages

INSTRUCTIONS AND INFORMATION

1. This question paper consists of TWO sections.
 - SECTION A (20)
 - SECTION B (30)
2. Answer ALL the questions on this question paper.
3. Answer SECTION A on the ANSWER SHEET provided on page 11.

SECTION A (COMPULSORY)**QUESTION 1**

Various possible options are provided as answers to the following questions. Choose the answer and write only the letter (A–D) next to the question number (1.1.1 to 1.1.5) in the ANSWER SHEET.

1.1.1 An electric circuit is a system for the transfer of ...

- A symbols.
- B energy.
- C components.
- D devices.

1.1.2 The sound in an electric circuit is made by a component which is called a ...

- A bulb.
- B heater.
- C plug.
- D buzzer.

1.1.3 The Sun and all the planets that travel around it is known as the ...

- A asteroids.
- B galaxy.
- C solar system.
- D solar panels.

1.1.4 The time it takes for the moon to travel around the earth is known as a/an ...

- A revolution.
- B rotation.
- C orbit.
- D crater.

1.1.5 A machine that can operate by itself and performs tasks like a human is known as a ...

- A telescope.
- B prototype.
- C robot.
- D space suit.

(5 x 1) (5)

QUESTION 2

Complete the following sentences by using the word(s) provided in the list below. Write only the word(s) next to the question number (2.1 to 2.5) in the ANSWER SHEET.

watts; radio telescopes; metal spoon; planets; coal

- 2.1 In S.A. most of our main electricity is produced by ... -burning power stations.
- 2.2 Scientists use ... to study radio waves radiated by planets and get information from these.
- 2.3 Power is measured in units known as
- 2.4 A plastic spoon will not conduct electricity faster than a
- 2.5 All the ... travel around the Sun in a path called an orbit.

(5 x 1) (5)

QUESTION 3

Choose an item / a word from COLUMN B that matches a description in COLUMN A. Write only the letter (A–E) next to the question number (3.1 to 3.5) in the ANSWER SHEET.

COLUMN A		COLUMN B	
3.1	A component that controls current flow in an electric circuit	A	Non-renewable resources
3.2	Natural resources that we use which will not last forever	B	Telescope
3.3	Two or more cells connected to provide electrical energy	C	Switch
3.4	An instrument that magnifies distant objects and makes them seem closer	D	Astronaut
3.5	A person trained to travel in a space craft	E	Battery

(5 x 1) (5)

QUESTION 4

Give ONE word / term for each of the following descriptions. Write only the word / term next to the question number (4.1 to 4.5) in the ANSWER SHEET.

4.1 Chunks of rock that travel around the Sun

4.2 Earth turning on its own axis

4.3 When the moon is dark and therefore cannot be seen

4.4 Used as wiring for electric current flow

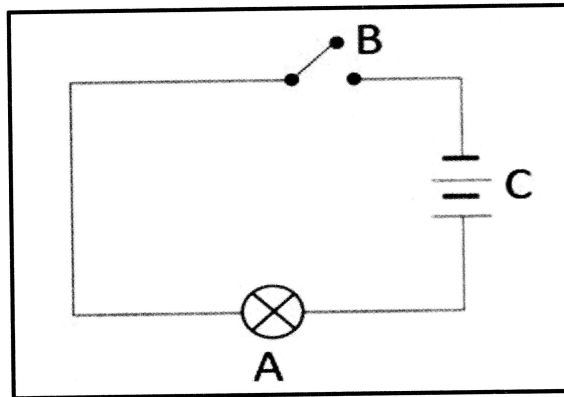
4.5 A non-metal that conducts electricity (5 x 1) (5)

TOTAL SECTION A: 20

SECTION B

QUESTION 5

5.1 Study the following diagram of a simple circuit representation.



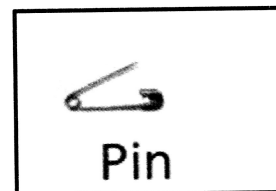
5.1.1 Label the parts marked:

- A _____ (1)
- B _____ (1)
- C _____ (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. (1)

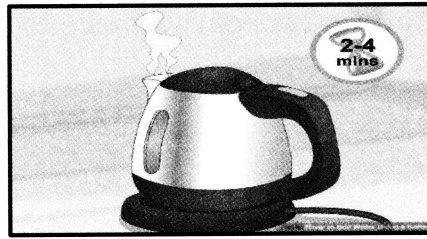
5.2 Look at the pictures below. Complete the table by saying which substance will conduct electricity and which will not.



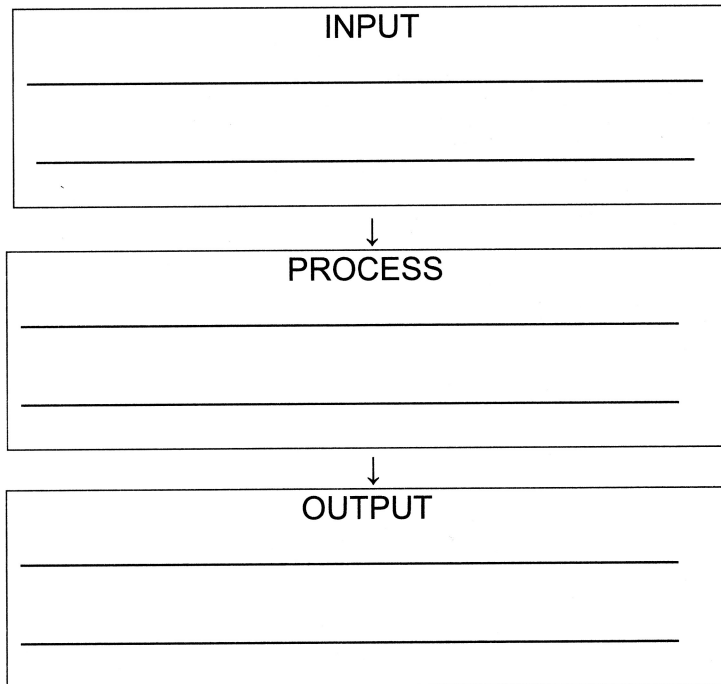
Conductor	Insulator
_____	_____

(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)

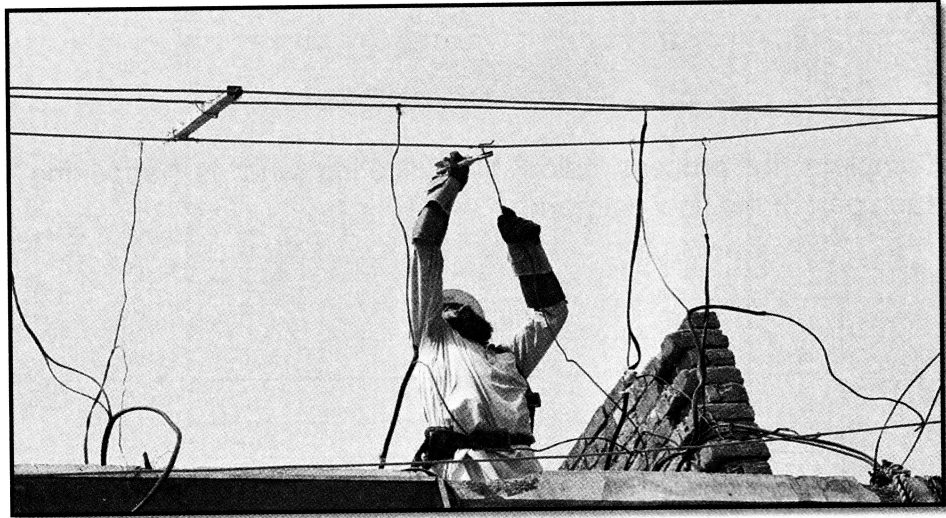
5.3.2 A specific part in a hair dryer makes the fan's blades turn. Draw the symbol for this part.

Symbol

(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?

(1)

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

(1)

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

(1)

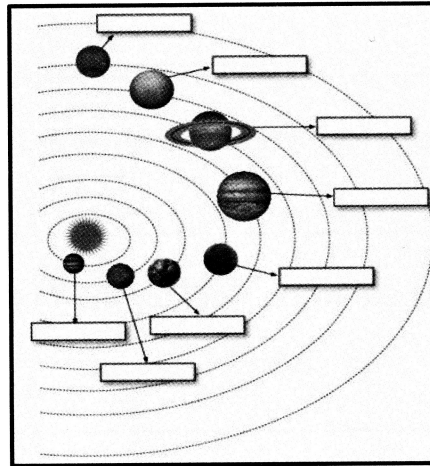
6.4 Name ONE factor that contributes to the cost of electricity.

(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?

(1)

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

(1)

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

(1)

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

(2)

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

(1)

- 7.2 7.2.1 What do we call the movement of the planets around the sun?
_____ (1)
- 7.2.2 Which phenomenon takes place as a result of the Earth's rotation?
_____ (1)
- 7.2.3 How long does it take for the Earth to travel around the sun?
_____ (1)
- 7.2.4 Name the phase of the moon whereby the whole of the moon can be seen.
_____ (1)
- 7.2.5 Briefly explain what a leap year is.
_____ (1)
- [11]

QUESTION 8

- 8.1 Explain the following acronyms:
- 8.1.1 SALT: _____ (1)
- 8.1.2 SKA: _____ (1)
- 8.2 In which town in the Northern Cape is SALT situated?
_____ (1)
- 8.3 What is the purpose of rovers on Mars and the moon?

_____ (1)
- [4]

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

SECTION A

ANSWER SHEET

QUESTION 1

1.1 _____

1.2 _____

1.3 _____

1.4 _____

1.5 _____

[5]

QUESTION 2

2.1 _____

2.2 _____

2.3 _____

2.4 _____

2.5 _____

[5]

QUESTION 3

3.1 _____

3.2 _____

3.3 _____

3.4 _____

3.5 _____ [5]

QUESTION 4

4.1 _____

4.2 _____

4.3 _____

4.4 _____

4.5 _____ [5]

TOTAL SECTION A: 20