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LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

CAPRICORN SOUTH DISTRICT

SENIOR PHASE

GRADE 9

NATURAL SCIENCES

BASELINE TEST

TERM 3

2024

MARKS: 50

DURATION: 60 MINUTES

INSTRUCTIONS

1. This question paper consists of 5 pages including the cover page
3. Number the answers correctly according to the numbering system used in the question paper.
4. Show all your calculations including formulae where applicable.
5. Candidates may use non-programmable calculators.
6. Write neatly and legibly.

QUESTION 1

1.1 Explain the following concepts

- a) Static electricity (1)
- b) Electric charge (1)
- c) Fuse (1)
- d) Short Circuit (1)

[4]

1.2 Use the following words or phrases to complete the sentences:

repel, electrical charges, negatively charged, shocks or sparks, attract, positively charged

- a) Friction can cause the build-up of _____ on the surfaces of objects. (1)
- b) Electrons can move from one material to another causing some material to be _____ and others to be _____. (2)
- c) Unlike charges _____ and like charges _____ each other. (2)
- d) The discharge of electrons can cause _____ of static electricity. (1)

[5]

1.3 State whether the following statements are true or false. If false, rewrite the statement correctly.

- a) A series circuit provides two or more pathways for the current passing through it. (1)
- b) Insulators do not allow electric current to pass through. (1)
- c) Copper wire is an example of an excellent insulator. (1)
- d) Resistance in a circuit is caused by an opposition to the flow of current. (1)
- e) Most electrical wires are made of copper. (1)

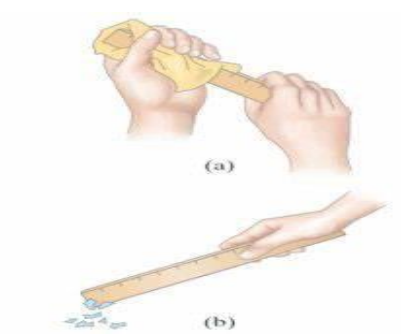
[5]

TOTAL:14



QUESTION 2

2.1 Study the figure below and answer the questions.



2.1.1 Identify the materials in the picture (3)

2.1.2 Describe what actually happens when the plastic ruler is rubbed with the cloth. (2)

2.1.3 Explain why pieces of paper will be attracted to the plastic ruler after rubbing it. (2)

2.2 The tree in this figure has been struck by lightning.



2.2.1 Explain what lightning is. (1)

2.2.2 Explain how lightning occurs. (3)

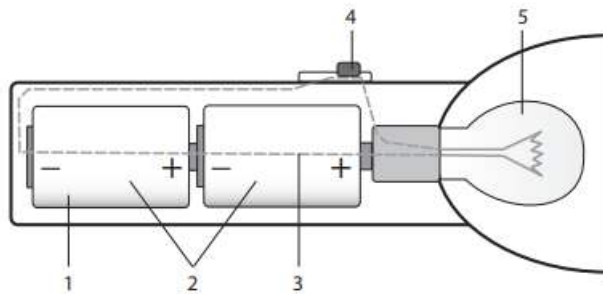
2.2.3 Explain what caused the tree to dry up. (1)

2.2.4 List two things you need to do to avoid being struck by lightning. (2)

[14]

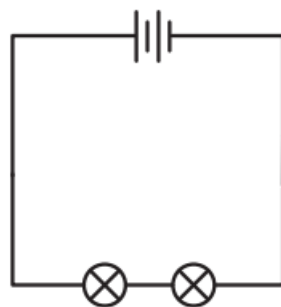
QUESTION 3

3.1 Study the figure below and answer the questions that follow.

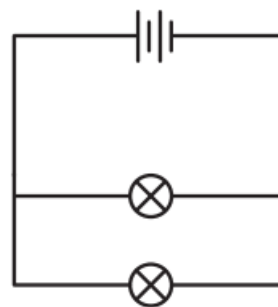


- 3.1.1 Identify the electrical appliance represented. (1)
- 3.1.2 Label the parts 1 to 5 on the diagram (5)
- 3.1.3 Describe the function of each part numbered 2 to 5 (4)
- 3.1.4 How is component 2 different from 1? (2)
- 3.1.5 Which component can also be called a resistor? (1)
- 3.1.6 Draw a labelled circuit diagram for this circuit (5)

3.2 Study the circuit diagrams below and answer the following questions.



Circuit diagram A



Circuit diagram B

- 3.2.1 Identify which diagram represents a series circuit. (1)
- 3.2.2 Identify which diagram represents a parallel circuit. (1)
- 3.2.3 State what you will observe if another cell is added to diagram A. (1)
- 3.2.4 State what you will observe if another bulb is added to diagram A. (1)
- 3.2.5 State what you will observe if another bulb is added to diagram B. (1)
- 3.2.6 Give the main difference between a series circuit and a parallel circuit. (2)
- 3.2.7 Describe what will happen if one bulb in circuit diagram A burns out.

Explain your answer. (3)

3.2.8 Describe what will happen if one bulb in circuit diagram B burns out.

Explain your answer. (3)

3.2.9 Which circuit connection is used in our homes? (1)

[32]

TOTAL MARKS: 50

