



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF EDUCATION

VHEMBE WEST DISTRICT

GRADE 08

NATURAL SCIENCES
TERM 4 EXAMINATION PAPER
NOVEMBER 2023

MARKS: 90

TIME: 2 Hours

This **question paper** consists of **EIGHT (8)** pages only.

INSTRUCTIONS:

- 1. Answer all questions.**
- 2. Write neatly and clearly.**
- 3. Do NOT Answer on the question paper.**
- 4. Use appropriate drawing instruments where necessary.**

SECTION A

Question 1

Various possible options are suggested as answers for the following questions. Choose the correct answer and write the corresponding LETTER (A-D), representing your chosen answer next to the question (1.1. – 1.10) on your answer sheet, for example 1.11. D

1.1. An uncharged object has.....

- A. No electrons
- B. No protons
- C. An equal number of electrons and protons
- D. Neutrons

1.2. The following is not an example of an output device...

- A. Light bulb
- B. Buzzer
- C. Beeper
- D. Cell

1.3. Materials through which a current can flow is called a...

- A. Battery
- B. Switch
- C. Conducting wire
- D. Cell

1.4. What type of energy is stored in the chemical substances inside a cell or a battery?

- A. Potential energy
- B. Electrical energy
- C. Light energy
- D. Thermal energy

1.5. The spreading of white light into different colours is known as ...

- A. Refraction
- B. Reflection
- C. Dispersion
- D. Absorption

- 1.6. Which one is NOT example of luminous object?
- A. Fire
 - B. Moon
 - C. Sun
 - D. Torch
- 1.7. Example of Outer gas giants...
- A. Venus
 - B. Mars
 - C. Uranus
 - D. Earth
- 1.8. The resistant wire inside a light bulb that glows to produce light is called a.....
- A. Conducting wire
 - B. Filament
 - C. Resistor
 - D. Magnetic field
- 1.9. The biggest object in our solar planet is...
- A. Sun
 - B. Moon
 - C. Jupiter
 - D. Comet
- 1.10. The natural phenomenon that is related to static electricity is?
- A. thunder
 - B. Rain
 - C. rainbow
 - D. Lightning

[10]

Question 2

Give an appropriate term for each of the following definitions. Write answers only next to the correct question number.

2.1. A band of light consisting of all the colours of the rainbow

2.2. A component which opens and closes a circuit.

2.3. A circuit in which an electric current flows along one path that is not branching

2.4. The study of bodies in the space.

2.5. Objects that do not allow light to pass through and will cast a shadow on the opposite side to the light rays

[10]

Question 3

Match each of the description in column A with one of the terms / phrases in column B. Write the question number (3.1. – 3.5) from **column A** on the answer sheet and the correct letter (A-F) of your chosen answer from **column B** next to the question number for example **3.2. B**

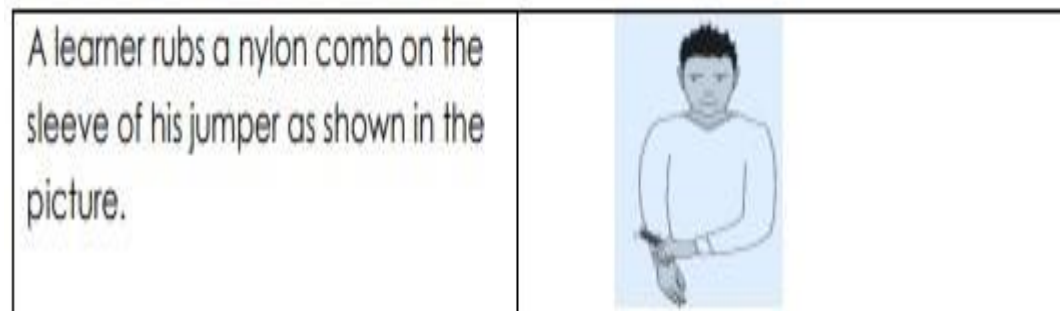
Column A	Column B
3.1. A device that is used to protect components of a circuit.	A. Cell
3.2. Source of electrical energy in a circuit	B. Repulsion
3.3. Occurs between two like charges	C. Pluto
3.4. Dwarf planet	D. Fuse
3.5. A curved path of a body around any other body in space	E. Comets
3.6. Material that does not allow current to flow.	F. Orbit
	G. Insulator

[12]

SECTION A TOTAL=32

SECTION B

Question 4



4.1. Explain why the comb become negatively charged. (2)

4.2. What type of charge is left on the jumper? (1)

4.3. The negatively charged comb is placed close to a charged plastic ruler. The comb and the ruler sticks to each other.

4.3.1 What is the charge of the plastic ruler? (1)

4.3.2 Explain why the observation above happened. (2)

4.4. The diagram shows a polythene rod which has been rubbed by a cloth. The + and – represent charged particles.

+--+--+--+--+--+--+--+--+--+

4.4.1. Write down the number of electrons? (1)

4.4.2. Write down the number of protons? (1)

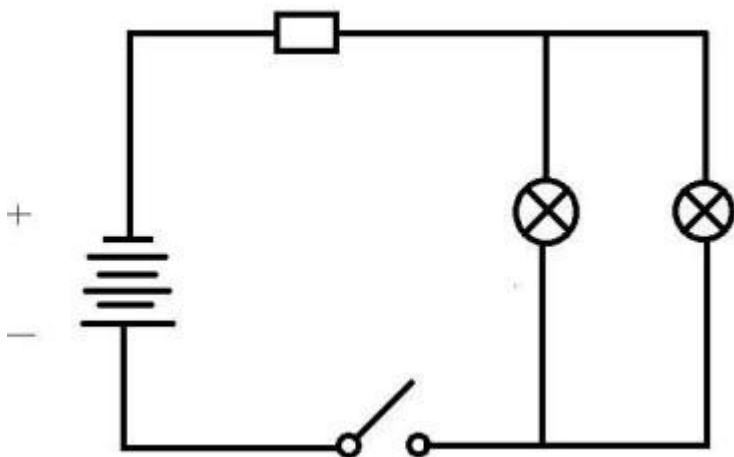
4.4.3. Is the overall charge on the rod negatively charged or positively charged? Explain? (3)

4.4.4. Mention FOUR things to avoid being struck by lightning? (4)

[15]

Question 5

Study the diagram below and answer questions that follows.



5.1. How many cells are connected in the circuit above? (1)

5.2 What type of circuit is this? Explain your answer (3)

5.3 Explain what would happen to the lightbulbs if the resistor is removed. (2)

5.4 If we add more bulbs, state whether the brightness of the bulb will,
INCREASE, DECREASE OR REMAIN THE SAME (1)

5.5 Draw the circuit diagram with 1 cell, 3 bulbs in parallel, ammeter and
closed switch. (5)

5.6 Explain why parallel connection would be preferred in connecting the light
bulbs in a house. (2)

5.7 Define electrolysis. (2)

5.8 Referring to the diagram below, answer the following questions.

5.8.1 Which effect of electric current is being shown? (2)

5.8.2 Explain why an insulated wire must be used. (2)

5.8.3 What do we call the design shown? (1)

5.8.4 What is a parallel circuit? (2)

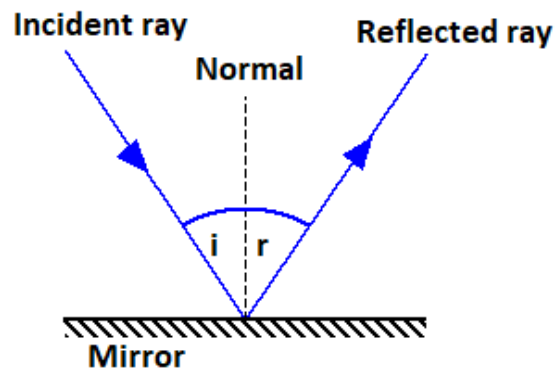
[23]

Question 6

6.1 What is visible light? (2)

6.2 Mention any two colours of the visible light. (2)

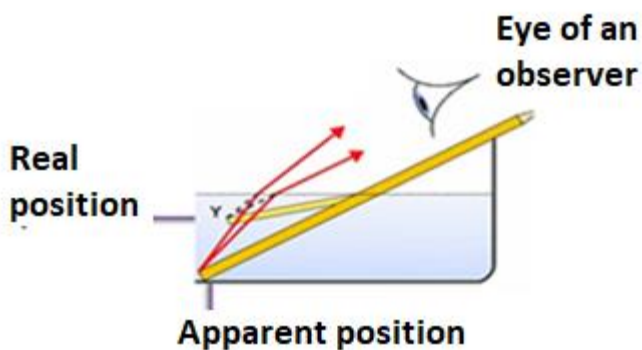
6.3 Use the diagram to answer the questions that follow:



6.3.1 What does i represent? (1)

6.3.2 What does r represent? (1)

6.4 Study the diagram and answer the question that follow.



Why does the part of the pencil that is in the water seem to bend? (2)

[8]

Question 7

7.1 What is the Sun? (1)

7.2 How old is the Sun? (1)

7.3 Discuss how the Sun relates to the Solar System. (2)

7.4 Where do we find the Kuiper Belt and the Oort Cloud? (2)

7.5 Refer to the table to answer the questions that follow:

Planet Name	Numb er of moon s	Orbit Period around the Sun	Day length in hours	Average temperatu re	Distance from the Sun (million km)
1. Mercury	None	88 days	4222.6	167 °C	57.9
2. Venus	None	225 days	2802.0	464 °C	108.2
3. Earth	1	365.25 days	24.0	15 °C	149.6
4. Mars	2	687 days	24.7	- 65 °C	206.6
5. Jupiter	67	12 years	9.9	-110 °C	740.5
6. Saturn	62	29 years	17.2	-140 °C	1352.6
7. Uranus	27	84 years	10.7	-195 °C	2741.3
8. Neptune	13	166 years	16.1	-200 °C	4444.5

7.5.1 How long is a year in Mercury? (1)

7.5.2 Which planet is the hottest to live in? (1)

7.5.3 Thabo is 14 years old, if he was on Mars how old would he be now? (2)

7.5.4 What would make it difficult for you to drink water in Neptune? (2)

[12]

SECTION B TOTAL = 58 MARKS

GRAND TOTAL = 90 MARKS