



KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

GENERAL EDUCATION AND TRAINING

GRADE 7

NATURAL SCIENCES PLC PRE-EXAMINATION 2025 TERM 4

Time: 1½ Hours

Marks: 60

Instructions and Information

1. You must **answer all the questions**.
2. Read the instructions carefully and answer questions as instructed.
3. Number your answers exactly as the questions are numbered.
4. Write neatly and legibly.

This question paper consists of **6 pages** and contains **7 questions**.

SECTION A: ENERGY & CHANGE (60% TERM 3 CONTENT)

QUESTION 1

Four options are provided as possible answers to the following questions. Each question has only ONE correct answer. Write down only the letter next to the question number e.g. 1.1. B

- 1.1 What type of an energy system is a windmill?
- A Biological system
 - B Mechanical system
 - C Electrical system
 - D Thermal system (1)
- 1.2 What is the most common source of biomass?
- A Burning of petrol
 - B Burning of wood
 - C Natural gas
 - D Dead plants and animals (1)
- 1.3 Which of the following is a form of wasted energy in a hair dryer?
- A Heat energy
 - B Light energy
 - C Sound energy
 - D Electrical energy (1)
- 1.4 How does the heat from the sun reaches the earth?
- A Conduction only
 - B Radiation only
 - C Conduction, convection and radiation
 - D Convection only (1)
- 1.5 Energy that is stored in Fossil fuels.
- A Heat
 - B Solar energy
 - C Gravity
 - D Petroleum (1)

[5]

QUESTION 2

- 2.1. State the law of conservation of energy. (2)
- 2.2. Complete the table below. Write down the correct answer next to the correct number.

Energy system	What is the input energy?	What is the output energy?
2.2.1 Burning coal 	2.2.1.1	2.2.1.2
2.2.2 Electric fan 	2.2.2.1	2.2.2.2
2.2.3 A car 	2.2.3.1	2.2.3.2

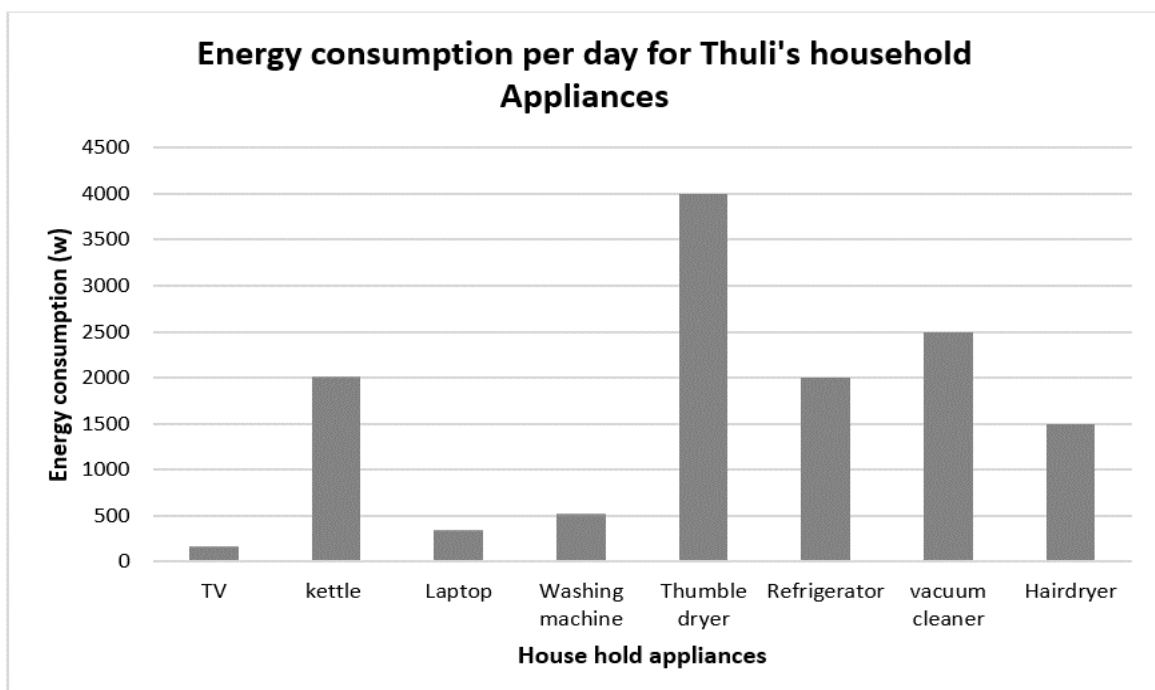
(Source: google)

(6)

[8]

QUESTION 3

The graph below shows the energy consumption of typical household appliances for Thuli's house in a single day.



Answer the following question by referring to the graph.

- 3.1** Which of the two appliances use the most electricity in a day for Thuli's house? (2)
- 3.2** Thuli's house use all the above appliances in 3.1. What is the total consumption of the three appliances in a day? (2)
- 3.3** Name an alternative source of energy that can be used to produce electricity. (1)
- 3.4** Draw a flow diagram showing the sequence and components of a coal power station starting from the furnace till it reaches your home. (6)
- [11]**

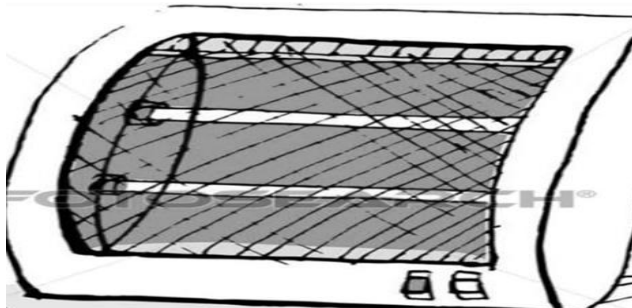
QUESTION 4

- 4.1** What is meant by "heat transfer"? (1)
- 4.2** Imagine Lucy from grade 7 is boiling water on the stove at 100°C . She used an aluminium pot.



(Source: google)

- 4.2.1** Explain the three processes by which heat energy is being transferred in the image above. (3)
- 4.3** A heater is placed on one side of a room and turned on. It is a cold night.



(Source: google)

- 4.3.1** Name the process of heat transfer and explain how heat is transferred through the room. (2)
- [6]**

QUESTION 5

Emihle from grade 7 investigated heat conduction of copper and plastic to find out which one is the better insulator. She used Vaseline to stick a drawing pin to the end of a bar made of copper and a bar made of plastic. Each bar is 10 cm long and has a diameter of 1cm. Emihle held the ends without the drawing pin over a Bunsen burner flame with a pair of tongs. She recorded how long it took for each drawing pin to drop.

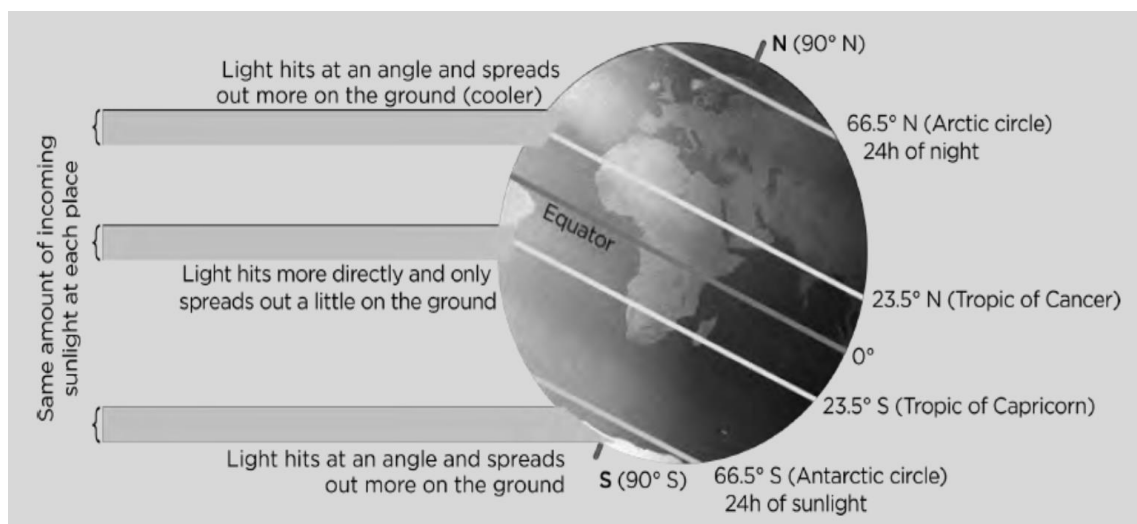
- 5.1 Name any two things Emihle controlled to ensure that his test was fair. (2)
- 5.2 Which variable was measured? (1)
- 5.3 Which was the independent variables? (1)
- 5.4 Which instrument is suitable for measuring the variable in question 5.2 above. (1)
- 5.5 Explain how Emihle could tell from his results which substance is the better insulator. (2)

[7]

SECTION B: EARTH & BEYOND (40% TERM 4 CONTENT)

QUESTION 6

Study the diagram and answer the questions that follow.



(Source: google)

- 6.1 Does the Equator or the poles receive more light, explain your answer? (2)
 - 6.2 Will the Northern hemisphere or the Southern hemisphere receive more direct light in the picture? Explain your answer. (2)
 - 6.3 From the Image above, what season is it in the Southern Hemisphere? (1)
- Term 4 Grade 7 Natural Sciences PLC Pre-Examination 2025

6.4 List two kinds of shoreline ecosystems. (2)

6.5 Briefly explain what causes:

6.5.1 Gravity. (2)

6.5.2 Tides. (2)

6.5.3 Seasons. (2)

[13]

QUESTION 7

Study the following diagram of the Moon and answer the questions that follow.



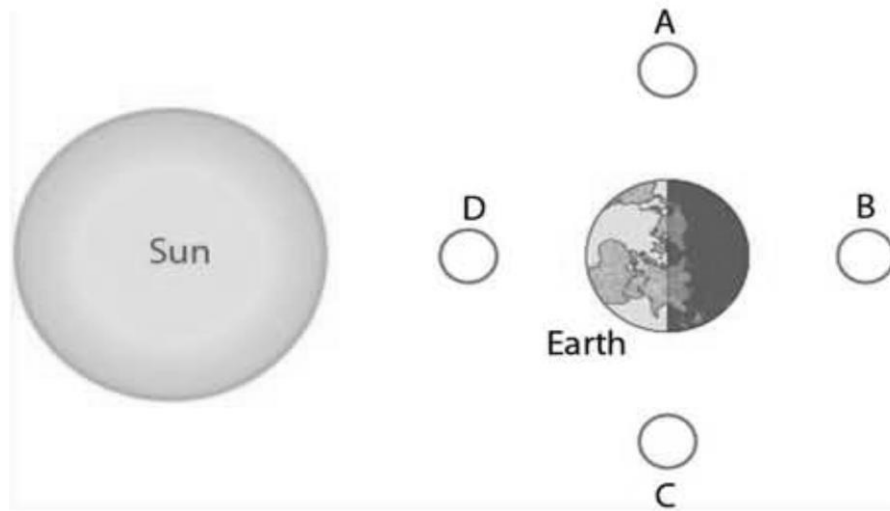
(Source: google)

7.1 How long will it take until this phase will be visible again? (1)

7.2 Name the type of tide experienced when the Moon shown above is in line with Earth and the Sun. (1)

7.3 Do you think the moon is made from gases like the stars that shine? Give a reason for your answer. (2)

7.4 Study the diagram below about the moon and answer the questions that follow.



(Source: google)

7.4.1 Name each phase of the Moon labelled A–D in the figure above. (4)

7.4.2. Name the phase that the Moon will be in when it is:

7.4.2.1 Between the Sun and Earth (1)

7.4.2.2 On the Easterly side of the Earth (1)

[10]

Total Marks: 60