KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

GENERAL EDUCATION AND TRAINING

GRADE 7

NATURAL SCIENCES
PLC FINAL EXAMINATION
2025

Marks: 60
Time: 1 ½ Hours

Instructions and Information

1. You must **answer all the questions**.
2. Read the instructions carefully, and answer questions as instructed.
3. Write your answers in the spaces provided
4. Write neatly and legibly.

NB. This question paper consists of **6 pages** and contains **8 questions**.

SECTION A

Question 1

You are given the statement with four possible answers. Choose the correct answer and write only the letter corresponding to the correct answer. e.g. 1.12 D.

1.1 Which one of the following is an example of kinetic energy?

A stretched spring

B falling stone

C car stopped

D books on the table (1)

1.2 What is the SI unit used to measure the energy?

A Newton (N)

B Joule (J)

C Grams (g)

D Kilograms (kg) (1)

1.3 A steam engine is a form of which system?

A Mechanical system

B Chemical system

C Electrical system

D Biological system (1)

1.4 A girl kicks a ball resting on the ground, what energy does the ball have at rest position?

A Kinetic energy

B Sound energy

C Potential energy

D Elastic energy (1)

1.5 This type of stored energy is present in a torch cell.

A Kinetic energy

B Gravitational potential energy

C Chemical potential energy

D Elastic potential energy (1)

1.6 The process by which heat energy is transferred from the Sun to the Earth is through...

A conduction

B radiation

C convection

D both convection and conduction (1)

1.7 The time taken by the Moon to revolve once around the Earth is approximately one

A Day

B Week

C Month

D Year (1)

1.8 What is the primary factor contributing to the changing seasons on Earth annually?

A Closeness of Earth to Sun during orbiting.

B Speed of Earth‘s rotation.

C Tilt of Earth on its axis.

D Number of meteorites in sky. (1)

1.9 Identify ONE unique factor that enables Earth to support life, distinguishing it from other planets in the solar system.

A Earth is exposed to rays from the sun

B Earth has only one moon that orbits around it.

C Earth rotates in an elliptical orbit around the sun.

D Earth has an atmosphere that can sustain life. (1)

1.10 The Earth's tides are primarily caused by …

A Gravity of the Moon.
B Gravity of the earth.
C Gravity of the stars.
D Gravity of the planets. (1)

[10]

Question 2

Give a correct scientific term for each of the following statements:

2.1 Stored energy in an object. (1)

2.2 The energy due to movement such as in a flying aeroplane. (1)

2.3 Materials that conduct heat very poorly. (1)

2.4 A star that is found in the centre of our Solar System (1)

2.5 A ball or rock that orbits the Earth every 29 days. (1)

[5]

Question 3

Match the terms in column B with the correct descriptions in column A. Write only the letter corresponding to the correct answer.

Column A		**Column B**		
3.1	The attraction between all objects that have mass.	A	fossil fuels	(1)
3.2	Transfer of heat by the movement of liquids or gas.	B	gravitational force	(1)
3.3	It is formed from the buried remains of plants and animals that lived million years ago.	C	potential energy	(1)
3.4	The regular rise and fall of the level of the sea.	D	convection	(1)
3.5	Energy at rest.	E	tides	(1)
				[5]

SECTION B

Question 4

1.1 Give brief explanation of the following.

4.1.1 Renewable source of energy. (1)

4.1.2 Non-renewable source of energy. (1)

4.2 Mention THREE ways by which heat is transferred. (3)

4.3 What makes a thatched roof house cooler in summer compared to a zinc roof house? Explain your answer using your knowledge of insulation. (3)

[8]

Question 5

The following table shows the nutritional information on a box of biscuits. Study it and then answer the questions that follow.

TYPICAL NUTRITIONAL INFORMATION		
	PER 100g	PER SERVING (2 biscuit = 15g)
Energy	1492 kJ	224 kJ
	356 kcal	53 kcal
Protein	8.4 g	1.3 g
Glycaemic Carbohydrate of which Total sugar	72 g	11 g
Total Fat	2.0 g	0.3 g
Saturated Fat	0.4 g	0.1 g
Trans Fat	0.0 g	0.0 g
Monounsaturated Fat	0.5 g	0.1 g
Polyunsaturated Fat	1.1 g	0.2 g
Cholesterol	0 mg	0 mg
Dietary Fibre	6.1 g	6.1 g
Total sodium	589 mg	88 mg
Nutritional information above refers to the ready-to-eat product. # ADAC 991.43.		

5.1 What is the mass of one biscuit in grams? (1)

5.2 What is the energy content per 100g in Kilo-Joules? (1)

5.3 The nutritional information gives the serving size of 2 biscuits. Determine the energy content if you only eat one biscuit. (2)

5.4 You now decide that you want 5 biscuits. Determine the total energy content if you choose to eat a serving of 5 biscuits. (1)

5.5 Analyse the nutritional information provided in the table and formulate a hypothesis about the potential health effects of eating biscuits as a regular part of one's diet. (3)

[8]

Question 6

6.1 A boy boiled some water in a kettle over the flame of a gas stove. As the water boiled, the boy could see the water bubbling and could also hear a hissing sound.

6.1.1 Evaluate the efficiency of this energy system. Which forms of energy are useful and which are wasted. (2)

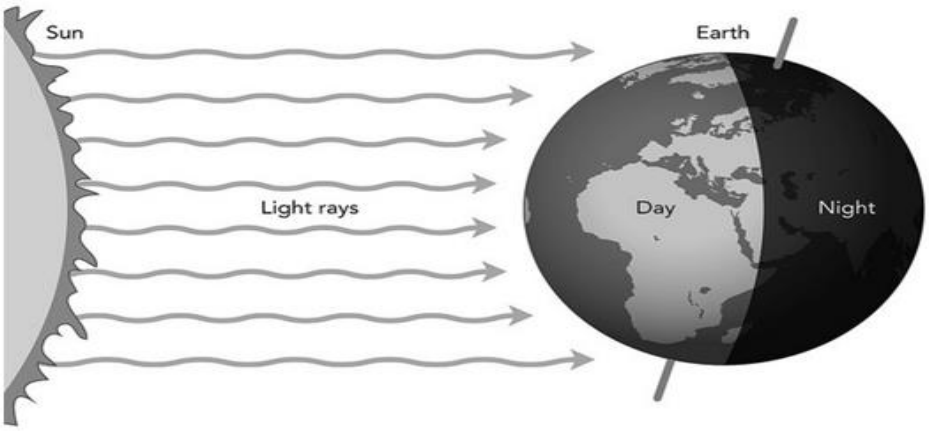
6.2 Compare Kinetic and Potential energy by describing how each is produced and used in everyday life. (4)

6.3 Compare coal and solar power as sources of energy. Which one of these is better to our environment? (4)

[10]

Question 7

Study the following diagram and answer the questions that follow.



7.1 What causes day and night as illustrated in the diagram? (1)

7.2 How long does it take the Earth to complete one revolution around the Sun? (1)

7.3 What is the name of the imaginary line that passes through the poles of the earth?

At what angle is this line tilted from the vertcal? (2)

7.4 How long does the earth take to complete one rotation on its axis? (1)

7.5 According to the diagram, is it day or night in South Africa? (1)

[6]

Question 8

Look at the following diagrams and answer the questions that follow

Diagram 1

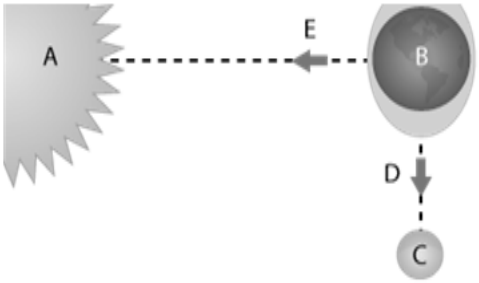
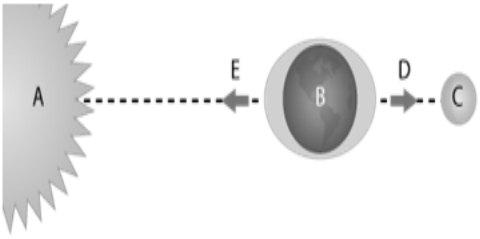


Diagram 2



8.1 What are sea tides? (1)

8.2 Compare diagrams 1 and 2 and decide which diagram represents Spring Tides and which diagram represents Neap Tides. (2)

8.3 Name the features labelled A, B and C in diagram 1 and 2. (3)

8.4 What does the arrow labelled E in the diagrams represent? (1)

8.5 How many times in a lunar month will there be Spring Tide? (1)

[8]

Total Marks: 60