



KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

**GENERAL EDUCATION AND
TRAINING**

GRADE 7

NATURAL SCIENCES

PLC PRE-EXAMINATION MEMORANDUM

2025 TERM 4

Time: 1½ Hours

Marks: 60

This memorandum consists of **3 pages** (excluding cover page)

SECTION A: ENERGY & CHANGE (60%)

QUESTION 1

- 1.1 B✓ (1)
- 1.2 B✓ (1)
- 1.3 C✓ (1)
- 1.4 B✓ (1)
- 1.5 B✓ (1)

[5]

QUESTION 2

- 2.1 Energy can neither be created nor destroyed✓ but can be converted from one form to another✓ (2)

2.2.1

2.2.1.1 Coal✓

2.2.1.2 Heat✓

2.2.2

2.2.2.1 Electricity✓

2.2.2.2 Wind✓/Sound (accept any correct answer)

2.2.3

2.2.3.1 Fuel✓/Chemical Energy (accept any correct answer)

2.2.3.2 Movement✓/Heat/ Sound (accept any correct answer)

(6)

[8]

Question 3

- 3.1. Tumble dryer✓, vacuum cleaner.✓ (2)
- 3.2. $4000W + 2500W✓ = 6500W✓$ (2)
- 3.3. Nuclear power✓, hydropower, wind power, solar power (accept anyone) (1)
- 3.4. Coal is burnt in power stations✓ → the heat energy from the burning coal heats water✓ and turns it into steam → the energy in the steam makes the turbine turn to produce mechanical energy✓ → the turbine is connected to a generator✓, which converts the mechanical energy into electrical energy✓ → the electricity produced is fed into the national electricity grid and taken to our homes.✓ (6)

[11]

QUESTION 4

- 4.1 It is the transfer of energy from a hotter object to a colder object✓, or from a system to its surroundings. (1)
- 4.2.1 The hotplate transfers heat energy to the pot by conduction. ✓
- The pot transfers heat energy to the water by conduction. ✓
 - The water warms up to boiling point by convection. ✓
 - The hotplate and hot pot transfer heat to the surroundings by radiation.
- (Any three) (3)
- 4.3.1 Convection✓, hot air rises, so the air around the heater gets warm and rises to the ceiling. Cold air sinks down to be heated by the heater, and rises up until the room is filled with warm air. ✓ (2)

[6]

QUESTION 5

- 5.1 Length and diameter of the rods✓, distance from flame✓, size of drawing pin, amount of Vaseline used to attach the drawing pin. (Accept any two) (1)
- 5.2 Time taken for the drawing pin to drop✓ (1)
- 5.3 Type of material✓ (1)
- 5.4 Stopwatch or watch with a second hand✓ (1)
- 5.5 The material that is the poorer conductor will take longer for the heat to travel through it and melt the Vaseline. ✓ Therefore, the last pin to drop is held with Vaseline on the material that is the better insulator. ✓ (2)

[7]

SECTION B: EARTH & BEYOND (40%)

QUESTION 6

- 6.1 They both✓ get the same amount of the sun. ✓ (2)
- 6.2 Southern hemisphere✓ as this part of the earth is more tilted towards the sun. ✓ (2)
- 6.3 Summer.✓ (1)
- 6.4 Sandy shore✓ and rocky shore ecosystem.✓ (2)
- 6.5.1 It is the tendency of objects✓ to attract each other towards themselves. ✓ (2)
- 6.5.2 Are the regular changes in water level✓ in seas and oceans.✓ (2)
- 6.5.3 Earth's tilt as it orbits✓ causes more radiation at one time of year than at another. ✓ (2)
- [13]**

QUESTION 7

- 7.1 29,5 days. ✓ (1)
- 7.2 Spring tide✓ (1)
- 7.3 No, ✓ the moon is made from rock and reflect the sun's light ✓ (2)
- 7.4.1 Full Moon✓, New Moon✓, Third Quarter✓, First Quarter✓ (4)
- 7.4.2.1 New Moon✓ (1)
- 7.4.2.2 Full Moon✓ (1)
- [10]**

Total Marks: 60

BALANCED WEIGHTING GRID FOR NS GRADE 7 PLC PRE-EXAMINATION 2025

Question no.	Lower order	Middle order	High order	TOTAL
		SECTION A		
Question 1				
1.1.	1			1
1.2.	1			1
1.3.	1			1
1.4.	1			1
1.5.	1			1
Question 2				
2.1.		2		2
2.2.1	2			2
2.2.2	2			2
2.2.3	2			2
Question 3				
3.1		1		1
3.2.		2		2
3.3.		2		2
3.4.			6	6
Question 4				
4.1	1			1
4.2.1	3			2
4.3.1			2	2
QUESTION 5				
5.1		2		2
5.2		1		1
5.3			1	1
5.4		1		1
5.5		1		1
		SECTION B		
		QUESTION 6		
6.1	2			2
6.2.		2		2
6.3	1			1

6.4		2		2
6.5.1		2		2
6.5.2		2		2
6.5.3		2		2
		QUESTION 7		
.1		1		1
7.2		2		2
7.3		2		2
7.4.1	4			4
7.4.2.1	1			1
7.4.2.2	1			1
TOTAL	40%	45%	15%	
% IN TEST	24	27	9	60