



KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

**GENERAL EDUCATION AND
TRAINING**

GRADE 8

**NATURAL SCIENCES
PLC PRE-EXAMINATION MEMORANDUM
2025 TERM 4**

Time: 1½ Hours

Marks: 60

This memorandum consists of 4 pages (excluding cover page).

SECTION A - ENERGY AND CHANGE (60%)

QUESTION 1

1.1 C ✓

1.2 B ✓

1.3 C ✓

[3x1=3]

QUESTION 2

2.1 The piece of tissue paper will be attracted towards the ruler / stick to the ruler. ✓ (1)

2.2

Marking criteria:

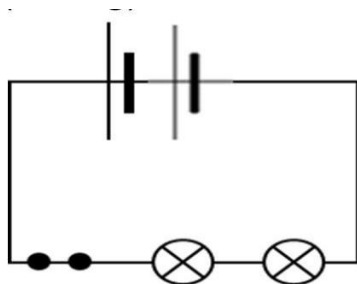
Negatively charged ruler / Ruler drawn as is. ✓

Negative charges in the tissue paper are pushed away / repelled by the negatively charged ruler to the opposite side of the piece of tissue paper. ✓ (2)

[3]

QUESTION 3

3.1



Marking criteria:

✓Two cells in series

✓Two bulbs

✓Bulbs in series

✓Open OR closed switch

(4)

3.2 The bulbs will light up ✓ (1)

3.3.1 The brightness will decrease ✓ (1)

3.3.2 The resistance increase ✓ (therefore the current decreased) (1)

3.4.

3.4.1 Heating effect ✓ (1)

3.4.2 Electrical energy ✓transformed to heat (thermal) energy. ✓ (2)

3.4.3 The electrons try to overcome the high resistance of the coil causing energy conversions to take place during this process. ✓✓ (2)

[12]

QUESTION 4

4.1 Parallel ✓ (1)

4.2 Electric current has multiple paths to flow through. ✓ (1)

4.3

4.3.1 Three/3 ✓ (1)

4.3.2

Circuit	Number of bulbs	Brightness of bulbs
A	2	Bright
B	3	Similar brightness / brighter

✓

✓

Correct number of bulbs in each circuit (column 2)

Correct brightness of bulbs (2)

4.3.3 Any relevant question indicating a relationship between the two variables: ✓

- What is the relationship between number of bulbs in series and brightness of the bulbs?
- What is the relationship between total resistance and current?
- Will the brightness (stay the same/increase/decrease) when adding light bulbs in parallel?

(1)

4.3.4 Any relevant answer: ✓

- Adding lightbulbs in parallel, causes no change in the brightness of the light bulbs.
- Adding light bulbs in parallel, decreases resistance, an increases current and brightness. (1)

[7]

QUESTION 5

5.1 Red ✓ (1)

5.2 Blue ✓ (1)

5.3 Only blue shorts/surfaces ✓ can reflect blue light. ✓ (2)

5.4 White light ✓ (1)

5.5 Black ✓ (1)

5.6

5.6.1 When light changes direction and stays in the same medium. ✓ (1)

5.6.2

A-Normal ✓

B-Angle of incident ✓

C- Angle of reflection ✓

D- reflected ray ✓

(4)

[11]

SECTION A [36]

SECTION B - EARTH AND BEYOND (40%)

QUESTION 6

6.1 C ✓

(1)

6.2 B ✓

(1)

6.3 A ✓

(1)

[3]

QUESTION 7

7.1 Disk-shaped / Circular / Spiral shaped ✓

(1)

7.2 Jupiter ✓

(1)

7.3. Nuclear (fusion) reactions ✓

(1)

7.4. **(TWO relevant factors and descriptions)**

Distance away from the Sun✓

The Earth's distance from the sun creates ideal temperatures for life to exist. ✓

Sunlight✓

Light from the sun is used during the process of photosynthesis to produce food that is passed on through the food webs. ✓

Atmosphere

Earth's atmosphere contains 21% oxygen, making life possible.

Water

Water on Earth exists in three phases: solid, liquid and gas.

(4)

7.5

7.5.1 They are all rocky/terrestrial planets. ✓

(1)

7.5.2 Earth✓, it has the longest diameter✓.

(2)

[10]

QUESTION 8

- 8.1 A collection of billions of stars, space dust and gas, held together by gravity. ✓ (1)
- 8.2 Because it looks like spilt milk. ✓ (1)
- 8.3 Galaxies contain a seemingly countless number of stars✓,
but the universe has so much more / contains all galaxies. ✓ (2)
- 8.4 Our Sun is located in one of the spiral arms, towards the edge of the Milky Way
galaxy. ✓ (1)
- [5]**

QUESTION 9

- 9.1 They used the movement of the stars and planets to mark the passage of time✓✓. (2)
- 9.2 Astronomer ✓ (1)
- 9.3 South African Large Telescope (1)
- 9.4 A telescope that works with lenses and mirrors. (1)
- 9.5 The Hubble telescope (1)
- [6]**

SECTION B [24]

Total Marks: 60

BALANCED WEIGHTING GRID FOR NS GRADE 8 PLC PRE-EXAMINATION 2025

SECTION A				
QUESTION NO.	LOW ORDER	MIDDLE ORDER	HIGH ORDER	TOTAL
QUESTION 1				
1.1	1			1
1.2	1			1
1.3		1		1
QUESTION 2				
2.1	1			1
2.2		2		2
QUESTION 3				
3.1		4		4
3.2	1			1
3.3		2		2
3.4.1	1			1
3.4.2		2		2
3.4.3			2	2
QUESTION 4				
4.1	1			1
4.2		1		1
4.3.1		2		2
4.3.2		1		1
4.3.3		1		1
4.3.4.		1		1
QUESTION 5				
5.1			1	1
5.2			1	1
5.3			2	2
5.4			1	1
5.5			1	1
5.6.1	1			1

5.6.2	4			4
SECTION B				
QUESTION NO.	LOW ORDER	MIDDLE ORDER	HIGH ORDER	TOTAL
QUESTION 6				
6.1		1		1
6.2			1	1
6.3	1			1
QUESTION 7				
7.1	1			1
7.2		1		1
7.3		1		1
7.4	4			4
7.5.1		1		1
7.5.2	1	1		2
QUESTION 8				
8.1	1			1
8.2		1		1
8.3		2		2
8.4	1			1
QUESTION 9				
9.1		2		2
9.2	1			1
9.3	1			1
9.4	1			1
9.5	1			1
% IN EXAMS	40%	45%	15%	
TOTAL MARKS	24	27	9	60