



SOUTH AFRICAN COMPREHENSIVE ASSESSMENT INSTITUTE
SUID-AFRIKAANSE KOMPREHENSIEWE ASSESSERINGSINSTITUUT

Adult Basic Education and Training (ABET)

Marking Guideline

Natural Sciences: NQF Level 1

Examination Session: November 2023

Total Marks: 100 marks



SECTION A**Question 1**

1.1

1.1.1	B ✓✓	(2)
1.1.2	A ✓✓	(2)
1.1.3	D ✓✓	(2)
1.1.4	C ✓✓	(2)
1.1.5	C ✓✓	(2)
1.1.6	B ✓✓	(2)
1.1.7	D ✓✓	(2)
1.1.8	C ✓✓	(2)
1.1.9	A ✓✓	(2)
1.1.10	D ✓✓	(2)

Total Marks for Question 1.1 **[20]**

1.2

1.2.1	False ✓	(1)
1.2.2	True ✓	(1)
1.2.3	False ✓	(1)
1.2.4	True ✓	(1)
1.2.5	True ✓	(1)

Total Marks for Question 1.2 **[5]**



1.3

1.3.1	C ✓	(1)
1.3.2	F ✓	(1)
1.3.3	A ✓	(1)
1.3.4	E ✓	(1)
1.3.5	B ✓	(1)

Total Marks for Question 1.3**[5]****Total for Section A: 30 Marks**

SECTION B**Question 2: Life and Living**

2.1.

- 2.1.1 (a) Photosynthesis ✓ (1)
(b) Respiration/Cellular respiration ✓ (1)

2.1.2 Stomata ✓✓ (2)

- 2.1.3
- Stimulates brain activity ✓
 - Detoxes the blood ✓
 - Raises energy level
 - Boost concentration
 - Helps with cardiovascular activity
 - Prevents lactic acid build-up
 - Reduces stress
 - Calms anxiety
 - Remedies irregular sleeping patterns

(Any 2)

2.2

2.2.1 Microorganisms/Microbes ✓ (1)

2.2.2 Microscope ✓✓ (2)

2.3

- 2.3.1 • A type of fungus ✓ consisting of microorganisms found almost everywhere. ✓ (2)



- A fungal growth that forms and spreads on various kinds of damp or decaying matter.
- A soft green or grey growth that develops on decaying matter.

(Any 1)

2.3.2 Spores ✓ (1)

- 2.3.3
- Temperature (accept hot/warm/cold temperature) ✓ (3)
 - Humidity ✓
 - Moisture ✓
 - Type of substrate
 - Darker area
 - Exposure to time
 - Nutrients/food

(Any 3)

2.3.4 Dependent variable ✓✓ (2)

Total Marks for Question 2 [17]

Question 3: Energy and Change

3.1

3.1.1 Kinetic energy ✓ (1)

3.1.2 $E_{p(\text{gravitational})} = \text{mass} \times g \times \text{height}$ (3)



$$= 22 \times 10 \times 1.5 \checkmark$$

$$= 330 \checkmark \text{ J or (joules) } \checkmark$$

3.2

- 3.2.1
- Hydropower ✓
 - Wind power
 - Solar power
 - Biomass
 - Nuclear power
 - gas

(1)

(Any 1)

- 3.2.2
- Switch off lights and appliances not used ✓
 - Insulate the geyser with a geyser blanket ✓
 - Use a shower to bath instead of a bathtub
 - Use low energy electrical kitchen appliances
 - Use low energy/ energy saving lightbulbs
 - Only boil the amount of water you need

(2)

(Credit any 2 relevant responses)

- 3.2.3 The country generates its income from the sale of electricity to businesses and residents ✓✓ (2)

3.3

- 3.3.1
- | Property of frequency | Property of vibration |
|-----------------------|-----------------------|
| Pitch ✓ | Sound ✓ |

(2)

- 3.3.2 The bottle with the most ✓ water will have the lowest ✓ pitch. (2)

OR

The bottle with the least water will have the highest pitch.

- 3.3.3 • Metal spoon ✓ (3)
 • Water ✓
 • Six identical small-mouthed bottles ✓

3.3.4 Music ✓✓ (2)

Total Marks for Question 3 [18]

Question 4: Matter and Material

4.1

4.1.1 Letter A ✓ (1)

4.1.2 Letter C ✓ (1)

4.1.3 DECREASE ✓ (1)

4.2

4.2.1 Heterogeneous ✓ (3)

Reason:

The mixture consists of solid ✓ substances of varying sizes ✓

4.2.2 (4)

	Method with explanation	What remains
Step1	Pour the entire mixture into a sieve placed on another empty	Rice and sugar beans ✓



	bowl and tap to sieve off the cake flour ✓	
Step2	Pour the mixture of rice and sugar beans on a flat surface and separate the sugar beans by hand ✓	Rice ✓

4.3

4.3.1 Litmus paper / blue litmus paper ✓ (1)

4.3.2

- Used as a catalyst in the industry ✓
- Used as a carbon dioxide source ✓
- Used for making baking soda
- Used in wool, silk and leather dyeing in textile industry

(Any 2 relevant answers)

4.3.3 No ✓ (2)

Reason:

It does not have C – H (carbon-hydrogen) bonds ✓

4.4

4.4.1 Non-natural ✓ (1)

4.4.2 Natural ✓ (1)

Total Marks for Question 4

[17]



Question 5: Earth and Beyond

5.1

5.1.1 A region of Earth where life exists. ✓ (1)

5.1.2 A – Hydrosphere ✓ (2)

B – Atmosphere ✓

5.1.3 Lithosphere ✓ (1)

5.2

5.2.1 It uses a lot of land for planting crops which requires regular watering. ✓✓ (2)

5.2.2

- Power generation ✓
- Construction
- Mining

(1)

(Any 1 relevant answer)

5.2.3

- Histogram ✓
- Line graph ✓
- Scatter plot
- Pie-chart

(2)

(Any 2 relevant answers)

5.3

5.3.1 Richter scale ✓✓ (2)



- 5.3.2
- Landslides ✓
 - Tsunamis ✓
 - Droughts
 - Wildfires
 - Snowstorms/blizzards
 - Hurricanes
 - Tornadoes
 - Volcanic eruptions

(2)

(Any 2 correct answers)

5.4

- 5.4.1 Solar eclipse ✓ (1)
- 5.4.2 The three celestial bodies will have to align ✓ as the Moon passes between the Sun and the Earth ✓, creating a total eclipse with the Sun. ✓ (3)
- 5.4.3 NASA/National Aeronautics and Space Administration ✓ (1)

Total Marks for Question 5

[18]

Total for Section B: 70 Marks

TOTAL MARKS: 100 MARKS

