



SOUTH AFRICAN COMPREHENSIVE ASSESSMENT INSTITUTE  
SUID-AFRIKAANSE KOMPREENSIEWE ASSESSERINGSINSTITUUT

## **Adult Basic Education and Training (ABET)**

### **Marking Guideline**

**Natural Science: NQF Level 1**

**Examination Session: November 2023**

**Total Marks: 100 marks**



**Answers****SECTION A****QUESTION 1**

## 1.1

1.1.1	D ✓✓	(2)
1.1.2	B ✓✓	(2)
1.1.3	D ✓✓	(2)
1.1.4	B ✓✓	(2)
1.1.5	C ✓✓	(2)
1.1.6	B ✓✓	(2)
1.1.7	A ✓✓	(2)
1.1.8	B ✓✓	(2)
1.1.9	C ✓✓	(2)
1.1.10	A ✓✓	(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	False ✓	(1)
1.2.5	True ✓	(1)

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



1.3

1.3.1	E ✓	(1)
1.3.2	A ✓	(1)
1.3.3	F ✓	(1)
1.3.4	B ✓	(1)
1.3.5	C ✓	(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	Figure A – Sperm ✓	(2)
	Figure B – Ovum/Egg cell ✓	



- 2.1.2 Joining together of sexual cells (gametes) produced by two parents ✓✓ (2)
- 2.1.3
- Artificial insemination ✓
  - In-vitro fertilization
- (Any 1)** (1)
- 2.2
- 2.2.1 Plant cell ✓ (1)
- 2.2.2 Light/radiant/solar energy ✓ (1)
- 2.2.3 Microscope ✓ (1)
- 2.3
- 2.3.1 Herbivores/ Primary consumers ✓ (1)
- 2.3.2 Bird population will be decreased by feeding on poisoned crops. ✓✓ (2)
- 2.3.3 Ecosystem ✓ (1)
- 2.4
- 2.4.1 Photosynthesis ✓✓ (2)
- 2.4.2 The presence of bubbles/oxygen gas in the test tube ✓ (1)
- 2.4.3
- Retort stand ✓
  - Test tube ✓
  - Glass funnel ✓
- (3)



- Plant
- Glass beaker
- Lamp
- Water

**(Any 3)****Total Marks for Question 2****[18]****QUESTION 3: Energy and Change**

3.1

3.1.1 Radiation ✓ (1)

3.1.2

- Speed – braai ✓
- Cooking ✓
- Boiling water
- Lighting

**(Any 2)**

3.1.3

- It may cause wildfire ✓
- Inhaling of smoke ✓
- Burn people
- Destroy vegetation

**(Any 2 relevant responses)**

3.2

3.2.1 Modern Technology ✓ (1)

3.2.2 Indigenous Technology ✓ (1)

3.3

3.3.1

- The container insulated with bubble wrap retains more heat than the container insulated with cardboard. ✓✓ (2)
- The container insulated with cardboard loses heat quicker than the container insulated with bubble wrap.

**(Any 1)**

3.3.2 Bubblewrap ✓ (1)

3.3.3

- Handle the glassware with care ✓ (2)

- Handle hot/boiling water carefully ✓

- Insulate the containers before pouring hot/boiling water

(Any 2)

3.4

3.4.1 The surface is rough (not smooth). ✓✓ (2)

3.4.2 Independent variable ✓ (1)

3.4.3 Work done =  $30 \times 8$  ✓ **1 mark for substitution** (2)

= 240 J (joules) ✓ **1 mark for answer with unit**

**Total Marks for Question 3 [17]**

#### Question 4: Matter and Material

4.1

4.1.1 Distillation ✓ (1)

4.1.2 Methylated spirit ✓ (1)

4.1.3 Methylated spirit has a lower boiling point (than water) ✓ (1)

4.2

4.2.1 Measuring cylinder/glass/cup ✓ (1)

4.2.2

- Cotton wool used in cup 3 is a better absorbent ✓ than the paper used in cup 1. ✓ (2)

- Cotton wool in cup 3 absorbed more water than the paper in cup 1.

**(Any relevant response)**



- 4.2.3
- Amount of water poured into the cups. ✓ (2)
  - Shape and size of the cups. ✓
  - Amount of time for soaking each material

## 4.3

- 4.3.1 (a) Iron (iii) oxide ✓ (1)
- (b) Iron ✓ (1)
- Oxygen

- 4.3.2
- Painting ✓ (2)
  - Oiling ✓
  - Galvanizing
  - Using stainless steel
  - Chrome/Zinc/Tin coating
  - Electroplating

**(Any 2 relevant responses)**

- 4.3.3
- Wooden door and window frames do not rust. ✓ (1)
  - Metal door and window frames rust.

## 4.4

- 4.4.1 Mercury ✓ (1)

- 4.4.2 It measures temperature. ✓ (1)

- 4.4.3 No ✓ (3)

**Reason:**

- The thermometer records the temperature of both the beaker and solution, instead of the solution only. ✓✓
- The thermometer must be held inside the solution and away from contacting any surface of the beaker.



**(Any relevant response)****Total Marks for Question 4****[18]****Question 5: Earth and Beyond**

5.1

5.1.1 Deforestation ✓ (1)

5.1.2 (a) It causes soil erosion. ✓ (1)

It causes flooding.

It causes desertification.

It leads to fewer crops.

**(Any 1)**

(b) It causes global warming. ✓ (1)

It increases greenhouse gases.

It causes climate change.

**(Any 1)**5.2 **Astrology** is the study of how the position and movement of celestial bodies affect people's lives. ✓✓ (4)**Astronomy** is the study of the universe and its contents outside of the Earth's atmosphere. ✓✓

5.3

5.3.1 Spaceship/Spacecraft ✓ (1)

5.3.2 • It is used to travel to the outer space ✓✓ (2)

- It is used for space exploration and research

**(Any relevant response)**

5.3.3 Thermosphere ✓ (1)

5.4

5.4.1 Hypothesis ✓✓ (2)

5.4.2 7 ✓ (1)

5.4.3 Lime ✓ (1)

5.4.4

- Lime neutralizes the acidity of the soil ✓✓
- Lime increases the pH of the soil
- Lime is a base (strong) hence it neutralises the acidity of the soil

(2)

**(Any 1)**

**Total Marks for Question 5**

**[17]**

**Total for Section B: 70 Marks**

**TOTAL MARKS: 100 MARKS**

