basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL ASSESSMENT
MARKING GUIDELINE 2023
TECHNOLOGY
GRADE 9

SECTION A

Question 1

- *One mark per answer.*
- *There are no half marks.*

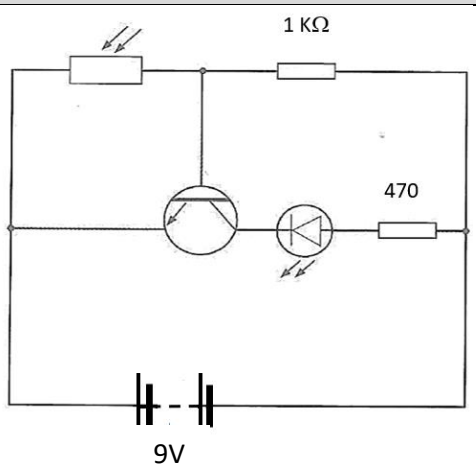
No.	Expected answers		
1.1	A	constraint	✓
1.2	C	communicate the model	✓
1.3	B	make	✓
1.4	C	budget	✓
1.5	D	orthographic	✓
1.6	A	specifications	✓
1.7	B	isometric	✓
1.8	C	size.	✓
1.9	B	hidden detail line	✓
1.10	D	evaluation	✓
1.11	C	millimetres	✓
1.12	C	scale	✓
1.13	A	shading	✓
1.14	B	flow diagram	✓
1.15	B	design brief	✓
1.16	C	initial drawings	✓
1.17	A	texture, colour, shadow and shading	✓
1.18	C	ergonomics	✓
1.19	D	free-hand drawing	✓
1.20	A	Identifying material—collecting material—measuring material—cutting—assembling—testing	✓
1.21	C	use materials economically.	✓
1.22	B	The object is three times bigger than the drawing.	✓
1.23	A	The working drawings of selected idea	✓
1.24	D	evaluate and select the best idea	✓

(24)

Question 2

- *<u>There are no half marks</u>.*

No.	Expected answer	Clarification	Mark
2.1	Mercy is frightened to enter her home in the dark because her light is off when she comes back from work✓ **OR** Mercy is frightened to enter her home because of the darkness outside her house.	**One mark** for the correct answer **No mark** if the answer is not relevant to the identified problem in the scenario	1
2.2	Design an electronic device ✓ that will detect the change in light intensity✓ and automatically switches on the outside light. ✓	**1 mark:** mentioning an electronic circuit device **1 mark:** reason for the design **1 mark:** the function of the design **2 marks:** if only two of the above-mentioned aspects were addressed **1 mark:** if only one of the above-mentioned aspects was addressed **No mark** for a response that is not mentioned in the scenario	3
2.3	The device should allow the LDR to detect the change in light intensity. ✓	**1 mark** for the correct answer **No mark** for an incorrect specification	1
2.4	The device needs to be installed within 2 days. ✓	**1 mark** for the correct answer **No mark** for an incorrect constraint	1

No.	Expected answer	Clarification	Mark
2.5		**Components** - **All six** electronic components are correctly included in the circuit. - LDR ✓ - LED ✓ - Transistor ✓ - 470 Ω resistor ✓ - 1KΩ resistor ✓ - 9 V Battery ✓ **Connection** Correct connection of the LED in terms of: - Polarity ✓ - Correct connection of the transistor ✓ **Positioning** - Correct positioning of the 1 KΩ resistor ✓ - Correct positioning of the 470 Ω resistor ✓	10

[16]

TOTAL FOR SECTION A:40

SECTION B

Question 3

- *One mark per answer.*
- *There are no half marks.*

No.	Expected answer		
3.1	B	SWITCH	✓
3.2	C	It acts as a switch and amplifies current.	✓
3.3	A	stores and releases electrical energy	✓
3.4	B	4 A	✓
3.5	D	440 Ω	✓
3.6	B	When the voltage increases, the current increases.	✓
3.7	A	When the LDR is exposed to a high light intensity, the resistance value decreases.	✓
3.8	C	330 Ω ± 5 %	✓
3.9	D	violet, green, red, silver	✓
3.10	C	Lamp 2 and Lamp 3 will stop working.	✓
3.11	B	When the switch is thrown at A, light bulb 1 will glow.	✓
3.12	A	It emits light when current passes through it.	✓
3.13	C	The hand movement is detected by the sensor and closes the circuit allowing warm air to blow on the hands, drying them.	✓
3.14	A	the use of electricity to coat metal with another metal	✓
3.15	D	Zinc	✓
3.16	B	painting	✓
3.17	B	Corrosion is the deterioration of metal after it is exposed to oxygen and water.	✓
3.18	D	Copper sulphate	✓
3.19	C	storing grain	✓
3.20	A	Polyethylene Terephthalate	✓
3.21	C		✓
3.22	C	It is resistant to chemicals, tough, heat-resistant and a barrier to moisture.	✓
3.23	B	It is a process of making new products from old materials.	✓
3.24	D	Collection—sorting—shredding—cleaning—melting—making of pellets	✓

[24]

SECTION C

Question 4

- *One mark per answer.*
- *There are no half marks.*

No.	Expected answer	Clarification	Mark
4.1.	Drying ✓, Pickling ✓, Salting ✓	**3 marks** for 3 correct methods mentioned	3
		2 marks if only 2 correct methods were mentioned	
		1 mark if only 1 correct method was mentioned	
		No mark if no correct method was mentioned	
4.2	4.2.1 C✓ 4.2.2 A✓ 4.2.3 B✓	**3 marks** for 3 correctly matched items	3
		2 marks for 2 correctly matched items	
		1 mark for 1 correctly matched item	
		No mark if none of the items were correctly matched	
4.3	**a. Advantages** It removes the moisture from food ✓ Make an unfavourable environment for micro-organisms to grow✓	**2 marks** for 2 correctly mentioned advantages	2
		1 mark for only 1 correctly mentioned advantage	
		No mark for incorrect advantages	
	b. Disadvantages Using too much salt is not good for our health ✓ Food may lose its nutritional value or quality✓	**2 marks** for 2 correctly mentioned disadvantages	2
		1 mark for only 1 correctly mentioned disadvantage	
		No mark for incorrect disadvantages	

No.	Expected answer	Clarification	Mark
4.4	There will be food shortages. ✓ There will be spoilage of food.✓	**2 marks** for 2 correctly mentioned negative impacts.	2
		1 mark for 1 correctly mentioned negative impact.	
		No mark for incorrect impacts.	
4.5	a. **<u>Economy</u>** - It will create job opportunities.✓	**1 mark** for 1 relevant point on the importance of preserving food (economy).	1
		No mark for an irrelevant point.	
	b. **<u>Society</u>** - Food will be available throughout the year, even if it is out of season.✓	**1 mark** for 1 relevant point on the importance of preserving food (society).	1
		No mark for an irrelevant point.	
4.6	It kills the micro-organisms.✓ **OR** It prevents bacteria from growing. **OR** It removes moisture from food, preventing chemical reactions.	**1 mark** for the 1 correct reason	1
		No mark for an incorrect reason	
4.7	Good hygiene is important when preserving food because food that is not cooked, stored or handled correctly can cause food poisoning and other conditions. ✓	**1 mark** for 1 correct conclusion on the importance of good hygiene.	1
		No mark for an incorrect conclusion on the importance of good hygiene.	

[16]