



## 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.

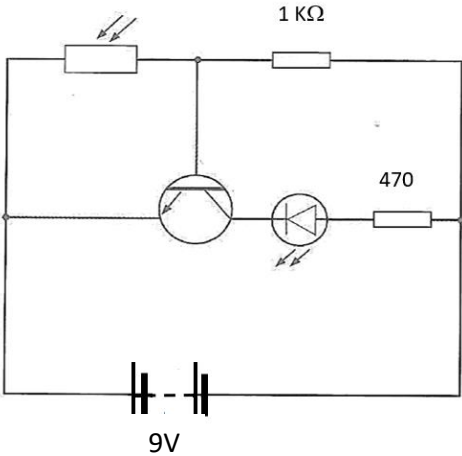
No.	Expected answers		
1.1	A	constraint	✓
1.2	C	communicate the model	✓
1.3	B	make	✓
1.4	C	budget	✓
1.5	D	orthographic	✓
1.6	A	specifications	✓
1.7	B	isometric	✓
1.8	C	size.	✓
1.9	B	hidden detail line	✓
1.10	D	evaluation	✓
1.11	C	millimetres	✓
1.12	C	scale	✓
1.13	A	shading	✓
1.14	B	flow diagram	✓
1.15	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	✓

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Question 2

- There are no half marks.

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 ✓ <b>OR</b> Mercy is frightened to enter her home because of the darkness outside her house.	<b>One mark</b> for the correct answer  <b>No mark</b> 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. ✓	<b>1 mark:</b> mentioning an electronic circuit device <b>1 mark:</b> reason for the design <b>1 mark:</b> the function of the design  <b>2 marks:</b> if only two of the above-mentioned aspects were addressed  <b>1 mark:</b> if only one of the above-mentioned aspects was addressed  <b>No mark</b> 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. ✓	<b>1 mark</b> for the correct answer  <b>No mark</b> for an incorrect specification	1
2.4	The device needs to be installed within 2 days. ✓	<b>1 mark</b> for the correct answer  <b>No mark</b> for an incorrect constraint	1

No.	Expected answer	Clarification	Mark
2.5		<p><b>Components</b></p> <ul style="list-style-type: none"> <li>- All six electronic components are correctly included in the circuit.</li> <li>- LDR ✓</li> <li>- LED ✓</li> <li>- Transistor ✓</li> <li>- 470 Ω resistor ✓</li> <li>- 1KΩ resistor ✓</li> <li>- 9 V Battery ✓</li> </ul> <p><b>Connection</b></p> <p>Correct connection of the LED in terms of:</p> <ul style="list-style-type: none"> <li>- Polarity ✓</li> <li>- Correct connection of the transistor ✓</li> </ul> <p><b>Positioning</b></p> <ul style="list-style-type: none"> <li>- Correct positioning of the 1 KΩ resistor ✓</li> <li>- Correct positioning of the 470 Ω resistor ✓</li> </ul>	10


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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 $\Omega$	✓
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 $\Omega \pm 5 \%$	✓
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	✓

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## SECTION C

### Question 4

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

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

No.	Expected answer	Clarification	Mark
4.4	There will be food shortages. ✓ There will be spoilage of food. ✓	<b>2 marks</b> for 2 correctly mentioned negative impacts.	2
		<b>1 mark</b> for 1 correctly mentioned negative impact.	
		<b>No mark</b> for incorrect impacts.	
4.5	a. <b><u>Economy</u></b> - It will create job opportunities. ✓	<b>1 mark</b> for 1 relevant point on the importance of preserving food (economy).  <b>No mark</b> for an irrelevant point.	1
	b. <b><u>Society</u></b> - Food will be available throughout the year, even if it is out of season. ✓	<b>1 mark</b> for 1 relevant point on the importance of preserving food (society).  <b>No mark</b> for an irrelevant point.	
4.6	It kills the micro-organisms. ✓ <b>OR</b> It prevents bacteria from growing. <b>OR</b> It removes moisture from food, preventing chemical reactions.	<b>1 mark</b> for the 1 correct reason	1
		<b>No mark</b> 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. ✓	<b>1 mark</b> for 1 correct conclusion on the importance of good hygiene.	1
		<b>No mark</b> for an incorrect conclusion on the importance of good hygiene.	

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