

ERC 2024
Standard Science
Answer Key

Section A: MCQ (28 x 2 marks = 56 marks)

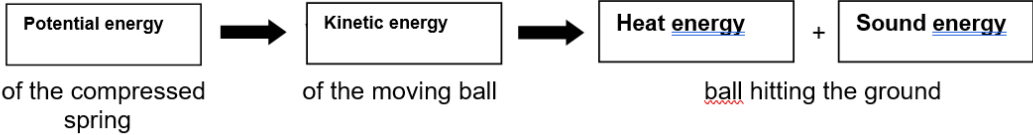
Qn	Answer	Qn	Answer	Qn	Answer
1.	(2)	11.	(3)	21.	(4)
2.	(4)	12.	(1)	22.	(4)
3.	(2)	13.	(2)	23.	(4)
4.	(1)	14.	(2)	24.	(3)
5.	(3)	15.	(1)	25.	(4)
6.	(1)	16.	(1)	26.	(1)
7.	(2)	17.	(1)	27.	(3)
8.	(4)	18.	(2)	28.	(2)
9.	(4)	19.	(3)		
10.	(4)	20.	(3)		

Section B: Open Ended (44 marks)

Qn	Acceptable Answers	Marks	Remarks
29 (a)	Structural	1	
(b)	Part X	1	
(c)	Part X contains air spaces which enable the plant to float.	1	
30 (a)	fungi	1	Do not accept: Fungi and bacteria
(b)	The outer surfaces are exposed to more air /surrounding / moisture / humidity / water vapour so the conditions are more favourable for more mould to grow.	1 1	Do not accept: vapour
(c)	Toast the bread / Put the bread in the fridge / Vacuum seal the bread	1	
31 (a)	decomposition	1	
(b)	carbon dioxide.	1	
(c)	used as fertiliser for plants	1	Do not accept: To fertlise the soil

Qn	Acceptable Answers	Marks	Remarks
(d)	Add water / more bacteria / more oxygen Add detritivores	1	Do not accept earthworms or termites
32 (a)	At stage R, it does not feed / eat / moult / move from place to place	1	
(b)	To ensure that the larva has food when they hatch.	1	
(c)	When temperature increases, the number of days needed to hatch decreases. There will be more A feeds on B and the population of C increases.	1 1	
33 (a)	Mark 1: breathing rate increases Body needs more oxygen ($\frac{1}{2}$) and more carbon dioxide is produced ($\frac{1}{2}$). Mark 2: Heart rate increases Heart pumped blood faster / more blood to the rest of the body .	1 1	Do not accept: Heart pumped oxygen faster to the rest of the body.
(b)	The water gains heat from his body and evaporates , cooling Ahmad's body.	1 1	

Qn	Acceptable Answers	Marks	Remarks
	<p>The volume should be the same</p> <p><u>Alternative answer</u></p> <p>A beaker filled with water (method) and see if it reaches the same height (compare)</p>	2	
(b)	120g	1	Unit is needed
(c)	Spring balance is used to measure weight	1	
38 (a)	Amount/ volume of boiling water in each container.	1	
(b)	C. The temperature of water in C decreases fastest ($\frac{1}{2}$) which shows that C is the best conductor of heat ($\frac{1}{2}$) and the ice cream will gain heat and melt the fastest to be easily shaped (1).	2	
39 (a)	<p>Reduces friction between the floor and shoe</p> <p>Lesser friction between the floor and shoe</p> <p>Partial</p> <p>Water is a lubricant</p>	<p>1</p> <p>$\frac{1}{2}$</p>	<p>Do not accept:</p> <p>No mention of 2 surfaces</p>

Qn	Acceptable Answers	Marks	Remarks
(b)	X, moved the least distance / roughest Greatest / most amount of friction between object and material	$\frac{1}{2}$ $\frac{1}{2}$	
(c)	The amount of force applied affects the distance moved	1	Do not accept: Conduct fair test
40 (a)	 <p style="text-align: center;"> Potential energy → Kinetic energy → Heat energy + Sound energy of the compressed spring of the moving ball ball hitting the ground </p>	$\frac{1}{2}$ each	
(b)(i)	The distance moved by the ball will <u>increase/ be greater</u> The ball will move further.	1	
(b)(ii)	The compressed spring <u>possessed more potential energy which was then converted to more kinetic energy</u> , allowing the ball to travel further.	1	