Name of the Student:_____
Max. Marks : 18 Marks **Time :18 Minutes**

Mark Schemes

Q1.

(a) decreased

correct order only

1

decreased

1

increased

1

(b) (i) A

reason only scores if A chosen

1

uses least / less energy (in 1 year)

a comparison is required
accept uses least power
accept uses least kWh

1

(ii) greater the volume the greater the energy it uses (in 1 year)

1

(iii) a very small number sampled

accept only tested 3
accept insufficient evidence / data
*allow not all fridges have the same efficiency **or** a correct description implying different efficiencies*
only tested each fridge once is insufficient
there are lots of different makes is insufficient

1

[7]

Q2.

(a) (i) any **two** from:

- mass (of block)
  accept weight for mass
- starting temperature
- final / increase in temperature
  temperature is insufficient

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- voltage / p.d.
  same power supply insufficient
- power (supplied to each block)
- type / thickness of insulation
  same insulation insufficient

2

(ii) one of variables is categoric
or
(type of) material is categoric
accept the data is categoric
accept a description of categoric
*do **not** accept temp rise is categoric*

1

(iii) concrete
reason only scores if concrete chosen

1

(heater on for) longest / longer time
a long time or quoting a time is insufficient
*do **not** accept it is the highest bar*

1

(iv) 4500 (J)
*allow **1** mark for correct substitution ie*
2 × 450 × 5 provided no subsequent step shown

2

(b) (i) point at 10 minutes identified

1

(ii) line through all points except anomalous
line must go from at least first to last point

1

(iii) 20 (°C)
if 20°C is given, award the mark.
If an answer other than 20°C is given, look at the graph. If the graph shows a correct extrapolation of the candidate's best-fit line and the intercept value has been correctly stated, allow 1 mark.

1

(iv) 2 (minutes)

1

[11]

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