

Name of the Student: \_\_\_\_\_

Max. Marks : 22 Marks

Time : 22 Minutes

Mark Schemes

**Q1.**

- (a) (i) electrical  
*correct order only* 1
- kinetic 1
- sound 1
- (ii) transferred into surroundings / atmosphere  
*accept warms the surroundings*  
*allow released into the environment*  
*becomes heat or sound is insufficient* 1
- (b) 0.7 / 70 %  
*an answer of 70 without % or with the wrong unit or 0.7 with a unit gains 1 mark* 2
- [6]

**Q2.**

- (a) (i) water 1
- heated  
*accept boiled or turned to steam*  
*do not accept evaporated* 1
- generator 1
- (ii) geothermal power stations provide a reliable source of electricity 1
- (b) falling water 1
- [5]

**Q3.**

- (a) (i) 77 1
- (ii) Oil 1
- (b) water 1  
*accept H<sub>2</sub>O*
- (c) Carbon dioxide causes global warming 1

[4]

**Q4.**

- (a) (i) temperature (increase) and time switched on are directly proportional  
*accept the idea of equal increases in time giving equal increases in temperature*  
*answers such as:*
- *as time increases, temperature increases*
  - *positive correlation*
  - *linear relationship*
  - *temperature and time are proportional*
- score 1 mark* 2
- (ii) any **one** from:  
*"it" refers to the metal block*
- energy transfer (from the block) to the surroundings  
*accept lost for transfer*  
*accept air for surroundings*
  - (some) energy used to warm the heater / thermometer (itself)  
*accept takes time for heater to warm up*
  - (metal) block is not insulated 1
- (iii) 15 000 2  
*allow 1 mark for correct substitution, ie 50 × 300 provided no subsequent step shown*
- (b) lead 1  
*reason only scores if lead is chosen*
- needs least energy to raise temperature by 1°C  
*accept needs less energy to heat it (by the same amount)*  
*lowest specific heat capacity is insufficient* 1

[7]