Name of the Student:_____
Max. Marks : 20 Marks **Time : 20 Minutes**

Mark Schemes

Q1.

(a) (i) £150

gets 2

Else 1000 – (250 + 350 + 100 + 150) or 1000 – 850

gets 1

2

(ii) (Named) floor covering
OR Insulation under floor

for 1 mark

1

(b) (i) Draught proof doors or fibre glass in loft or in cavity
For draught proofing

gains 1 mark

Very low cost/easy to install
Repays for itself quickly/cost recuperated quickly
Reasonable energy saving

any 2 for 1 mark each

For loft insulation

Second lowest installation cost/easy to install
Reasonable large energy savings for this cost
Reasonable payback time

gains 1 mark

For foam filled cavity
Biggest energy/cash saving
Cost effective

any 2 for 1 mark each

3

(ii) **Double glazing**

gains 1 mark

Costs most
Saves least energy
Least cost effective

any 2 for 1 mark each

3

[9]

Q2.

(i) currents of moving liquids/gases/fluids carrying/transferring energy
(can name fluid)

1

(ii) liquids/gases **expand** when their temperature rises/when they are heated

the **density** of the heated liquid/gas is then **less** than that of the colder liquid/gas which has not been heated

the warmer/less dense liquid/gas **then rises** through the colder/denser liquid/gas

the **colder/denser liquid/gas falls** to replace the liquid/gas which has risen, and in turn becomes heated

for 1 mark each

4

[5]

Q3.

(a) convection
air is heated by the burner / particles gain energy
air expands / particles move about more / particles move faster
air becomes less dense / particles are more spread out
air rises / particles rise - *not* heat rises
air from C moves into the heater / particles from C move into the heater to replace it / them

any four *for 1 mark each*

4

(b) (i) radiation

for one mark

1

(ii) black surface <u>radiates / emits</u> well
(*allow* absorbs and emits well) (*allow* comparison with shiny / white surfaces)

large surface area needed
high temperature (of the lumps)

any one for 1 mark

1

[6]