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

Mark Schemes

Q1.

(a) (i) P = V × 1

or equivalent

credit a triangle if part (ii) correctly uses the relationship
*credit power = volts × amps **or** watts V × A*
do not accept C for current

1

(ii) (P = 230 × 10 =) 2300

credit 2.3

1

W **or** J/s

kW

1

(b) (i) 15 A

*credit 13 A **or** amps*

1

(ii) any **three** from

earth

any short (to the metal tank) causes fuse to blow

fuse is in the live wire

to prevent damage to the heater

credit to stop the current

3

(c) (i) V = I × R

or equivalent

credit a triangle if part (ii) correctly uses the relationship

1

(ii) (230 = 10 × R =) 23

ohms **or** Ω

2

[10]

Q2.

(a) *Formula mark*

P = V × I

accept P = VI ***or*** *W = V 5 A* ***or*** *any transformation*

1

Substitution mark I = 900 ÷ 230

1

Calculation mark 3.9

accept 3.9 ***or*** *3.91* ***or*** *4 for three marks with no working*

1

(b) 900 + 1300 = 2200 ÷ 230 = 9.6

accept 9.57 to 9.6 ***or*** *10 for both marks with no working*

2

(c) 1.2 + 0.45 = 1.65

1

× 0.5 = 0.825

accept 0.8 ***or*** *0.83 for both marks with no working*

1

(d) any **one** from

use less energy (to cook something)

accept fewer energy losses ***or*** *use less electricity*

cook faster

do not credit a cost argument about buying two different ovens

1

[8]