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

Mark Schemes

Q1.

(a) (i)

Wire	Plug terminal
Live	C
Neutral	A
Earth	B

*all 3 correct for **2** marks*
*allow **1** mark for 1 correct*

2

(ii) plastic
or
rubber

accept:
ABS
UF / urea formaldehyde
nylon
PVC

1

(b) (i) 600

*allow **1** mark for correct substitution,*
ie $P = \frac{30\,000}{50}$
provided no subsequent step

2

(ii) power is greater than 820 (W)
power is 1200 W is insufficient

1

the lead /cable / wire <u>will</u> overheat / get (too) hot
accept lead / cable will melt
may overheat / get hot is insufficient

1

so there is a risk of fire
accept causing a fire

1

(c) X

any **one** from:

- most / more efficient
- smallest energy input (per second)
- cheapest to operate

mark only scores if X is chosen
mark is for the reason
accept smallest input (power) for same output (power)
accept wastes least energy
smallest (power) input is insufficient
uses least electricity is insufficient

1

[9]

Q2.

(a) 25(Ω)

1

(b) (i) 2(V)

*allow **1** mark for showing a correct method, ie 6 / 3*

2

(ii) equal to

1

[4]

Q3.

(a) (i) 50 (Hz)

1

(ii) 2760 (W)

1

(b) 12

*allow **1** mark for correct substitution, ie 2400/200*
or
*allow **1** mark for 2760/230 provided no subsequent step shown*

2

amps

1

(c) the charge is <u>directly</u> proportional to the time switched on for

*accept for **1** mark the longer time (to boil), the greater amount of charge*
***or** positive correlation*
***or** they are proportional*

2

[7]