Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic: Electricity (Standard demand)

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Name of the Student:_____
Max. Marks : 19 Marks **Time : 19 Minutes**

Mark Schemes

Q1.

(a) 32,400,00 J

*allow **1** mark for correct substitution*
$3.24 \times 10^{\wedge 7\ J}$

2

(b) (3kW) fan heater

accept 3kW
accept the middle one

1

(c)

features common to more than one heater, treat as neutral

<u>oil-filled</u>

low level heat

cannot be knocked over / space saving / no trailing wires
*do **not** accept just wall-mounted*

or more control over heat output
*do **not** accept just 3 heat settings*

1

<u>fan</u>

warms (office) rapidly **or** can be used to cool air (in summer)
accept can be used as a fan
accept cool air fan (setting)
accept 'it has a cool air setting in case it gets too hot'
*do **not** accept a specific reference to cooling the heater*

1

<u>ceramic</u>

can be switched on for set periods of time
*do **not** accept just has a timer*

or can be switched on before office is used / switched off automatically at night

1

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Q2.

(i) 30

*allow **1** mark for showing correct method i.e. 5 × 6 **or** 12 ÷ 0.4*

2

(ii) connected in <u>series</u>

insufficient they are not connected in parallel

1

(iii) 0.4

1

(iv) equally/ evenly

the same is insufficient
allow credit for candidates that correctly mention pd across the connecting wires
accept (nearly) 2 V (each)

1

[5]

Q3.

(a) (i) 0.6

accept 60 %
*allow **1** mark for useful energy = 480*
*answer 0.6 with any unit or 60 gains **1** mark only*

2

(ii) transferred to surroundings

accept goes into the air
accept heats the surroundings up
accept gets spread out
accept transferred into heat (only)
*do **not** accept wasted / lost unless qualified*
destroyed negates mark
transferred into light / sound negates mark

1

(b) (i) 1.75

*allow **1** mark for converting to kW*
*answers of 0.7, 0.525, 0.35, 0.875, 1.05, 5.25 gains **1** mark*
*answers of 1750 or 17.5 gains **1** mark*

2

(ii) 21p or £0.21 or their (b)(i) × 12

1

(c) any **two** from:

- (more) electricity needs to be generated
  (more) electricity is being used
- (more) power stations needed
- (more) fossil fuels burnt
  accept named fossil fuel
- (more) pollutant gases emitted

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accept named gas
accept harmful for pollutant
accept greenhouse gases
accept atmospheric pollution

accept answer in terms of any form of electricity generation and an associated environmental problem

2

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