Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic: GCSE Triple Science_Electricity (Standard Demand Questions)

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Name of the Student:_____
Max. Marks : 24 Marks **Time : 24 Minutes**

Mark Schemes

Q1.

(a) (rate of) flow of charge / electrons / ions

accept movement for flow
*do **not** accept flow of electricity*

1

(b) 7(.0)

accept 6.96 / 6.95 or an answer that would approximate to 6.96 if rounded
*allow **1** mark for obtaining correct power and changing to watts ie 1600*
or
*allow **2** marks for correct substitution and transformation*
ie 1600 ÷ 230
*an answer 0.00696 / 0.007 gains **2** marks*
*allow **1** mark for 1.6 / 230 or 1.7 / 230*
*an answer 7.39 or 7.4 gains **2** marks*

3

amp (ere)

accept A

1

[5]

Q2.

(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

oil-filled

low level heat

cannot be knocked over / space saving / no trailing wires

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*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

[6]

Q3.

(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]

Q4.

(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)

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*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
  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

[8]

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