

Name of the Student: _____

Max. Marks : 17 Marks

Time : 17 Minutes

Mark Schemes

Q1.

(a) M

1

(b)



or



1

(c)

an answer of 0.8 (A) scores 2 marks

$$\text{current} = \frac{24}{30}$$

1

$$\text{current} = 0.80 \text{ (A)}$$

1

(d)

an answer of 216 (J) scores 2 marks

$$E = 60 \times 3.6$$

1

$$E = 216 \text{ (J)}$$

1

(e) The reading in Y would be lower

1

(f) The total resistance of Y is greater

1

(g) potential difference = current \times resistance

or

$$V = IR$$

1

(h)

an answer of 4.5 (Ω) scores 3 marks

$$3.6 = 0.80 \times R$$

1

$$R = \frac{3.6}{0.80}$$

1

$$R = 4.5 \, (\Omega)$$

1

[12]

Q2.

- (a) 0.08 (s)

1

- (b) the current goes higher than normal value
allow the current goes (too) high

or

the current goes higher than 1.5 A

1

- (c) $P = 1.5 \times 24$

1

$$P = 36 \, (W)$$

1

an answer of 36 (W) scores 2 marks

- (d) LED lamps waste a smaller proportion of the input energy than filament lamps

1

[5]