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

Mark Schemes

Q1.

(a) parallel

1

(b) S_1

1

(c) S_1, S_2 and S_3

1

(d) energy transferred = power × time
or
$E = P \times t$

1

(e) 3600 = 1200 × t

1

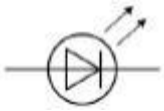
$$t = \frac{3600}{1200}$$

1

t = 3 (s)

1

(f)



1

[8]

Q2.

(a) A: transmission / power cables
allow transmission / power lines
allow cables
ignore wires

1

B: step-down transformer

1

(b) less thermal energy is transferred to the surroundings.

1

(c) charge flow = $\frac{500\ 000\ 000}{}$

1

charge flow = 20 000 (C)

1

(d) total current = 7.20 (A)

1

P = 230 × 7.20

allow a correct substitution of an incorrect total current

1

P = 1656 (W)

allow a correct calculation using an incorrect total current

1

(e) dishwasher

1

has the largest current
or
has the largest power (input)

1

(f) E = 600 × 32 000 000

1

E = 19 200 000 000 (J)
or
E = 1.92×10^{10} (J)

1

[12]