

**Modified Enlarged 24 pt**  
**OXFORD CAMBRIDGE AND RSA**  
**EXAMINATIONS**

**Level 3 Cambridge Technical in**  
**Applied Science**

**05847/05848/05849/05874/05879**

**Data sheet**

**Unit 1 Science fundamentals**

**Unit 2 Laboratory techniques**

**INSTRUCTIONS**

**Do not send this Data Sheet for marking.**  
**Keep it in the centre or recycle it.**

## UNIT 1

**Density ( $\text{kg/m}^3$ ) = mass (kg)  $\div$  volume ( $\text{m}^3$ )**

**Current (A) = number of electrons per  $\text{m}^3$   $\times$  cross-sectional area of conductor ( $\text{m}^2$ )  $\times$  drift velocity ( $\text{m s}^{-1}$ )  $\times$  electron charge (C)**

**$I = \Delta Q \div \Delta t$**

**Potential difference (V) = current (A)  $\times$  resistance ( $\Omega$ )**

**Charge (C) = current (A)  $\times$  time (s)**

**Power (W) = energy (J)  $\div$  time (s)**

**Power (W) = potential difference (V)  $\times$  current (A)**

**Energy transferred (work done) (J) = charge (C)  $\times$  potential difference (V)**

**Energy transferred (J, kWh) = power (W, kW)  $\times$  time (s, h)**

**Area of a circle =  $\pi r^2$**

**Circumference of a circle =  $2\pi r$**

**Current flow:**

**Series**      $R_t = R_1 + R_2 + R_3$

**Parallel**      $\frac{1}{R_t} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$

## **UNIT 2**

$$n = c \times V$$

**where:**

**c = concentration (mol dm<sup>-3</sup>)**

**n = number of moles**

**V = volume (dm<sup>3</sup>)**

**Magnification = measured size ÷ actual size**



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