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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

C349/2506

INSTRUCTIONS

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



UNIT 1

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

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

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

$$\text{Potential difference (V)} = \text{current (A)} \times \text{resistance (\Omega)}$$

$$\text{Charge (C)} = \text{current (A)} \times \text{time (s)}$$

$$\text{Power (W)} = \text{energy (J)} \div \text{time (s)}$$

$$\text{Power (W)} = \text{potential difference (V)} \times \text{current (A)}$$

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

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

$$\text{Area of a circle} = \pi r^2$$

$$\text{Circumference of a circle} = 2\pi r$$

Current flow:

$$\text{Series} \quad R_t = R_1 + R_2 + R_3$$

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

UNIT 2

$$n = c \times V$$

where:

c = concentration (mol dm⁻³)

n = number of moles

V = volume (dm³)

Magnification = measured size ÷ actual size



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