

TABLE 1: PHYSICAL CONSTANTS

| NAME | SYMBOL | VALUE |
|-----------------------------|----------------|---|
| Acceleration due to gravity | g | 9,8 m·s ⁻² |
| Permittivity for free space | ε ₀ | 8,85 × 10 ⁻¹² Fm ⁻¹ |

TABLE 2: FORMULAE

FORCE

| | |
|---|-----------------|
| $F_{net} = ma$ | $p = mv$ |
| $f_s^{max} = \mu_s N$ | $f_k = \mu_k N$ |
| $F_{net} \Delta t = \Delta p$ $\Delta p = mv_f - mv_i$ | $F_g = mg$ |

WORK, ENERGY AND POWER

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|--|--|
| $W = F \Delta x \cos \theta$ | $U = mgh$ or $E_p = mgh$ |
| $K = \frac{1}{2}mv^2$ or $E_k = \frac{1}{2}mv^2$ | $\Delta K = K_f - K_i$ or $\Delta E_k = E_{kf} - E_{ki}$ |
| $M_E = E_k + E_p$ | $P = \frac{W}{\Delta t}$ |
| $P_{ave} = Fv_{ave}$ | |

ELASTICITY, VISCOSITY AND HYDRAULICS

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|-------------------------------|-------------------------------------|
| $\sigma = \frac{F}{A}$ | $\epsilon = \frac{\Delta l}{L}$ |
| $\frac{\sigma}{\epsilon} = K$ | $\frac{F_1}{A_1} = \frac{F_2}{A_2}$ |

ELECTROSTATICS

| | |
|--|-------------------|
| $C = \frac{\kappa \epsilon_0 A}{d}$ and $C = \frac{\epsilon_0 A}{d}$ | $E = \frac{V}{d}$ |
| $C = \frac{Q}{V}$ | |

CURRENT ELECTRICITY

| | |
|---|--|
| $R = \frac{V}{I}$ | $q = I \Delta t$ |
| $W = VQ$ $W = VI \Delta t$ $W = I^2 R \Delta t$ $W = \frac{V^2 \Delta t}{R}$ | $P = \frac{W}{\Delta t}$ $P = VI$ $P = I^2 R$ $P = \frac{V^2}{R}$ |
| $R_s = R_1 + R_2 + \dots$ $\frac{1}{R_p} = \frac{1}{R_1} + \frac{1}{R_2} + \dots$ | |

ELECTROMAGNETISM

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|-------------------------------------|--|
| $\phi = BA$ | $\epsilon = -N \frac{\Delta \phi}{\Delta t}$ |
| $\frac{V_s}{V_p} = \frac{N_s}{N_p}$ | |