

Biophysics Series 02

Exercise 01

Write, in the International System (SI), the dimensional equations for the following physical quantities : Acceleration (γ), force (F), work (W), power (P), potential difference (U) and electrical resistance (R).

Exercise 02

Express the following derived units in the base units of the System International (SI): Newton (N), Joule (J), Watt (W).

Exercise 03

Determine the dimension of the two parameters α and β that appear in the following physical law :

$$F = \alpha mv + \beta v^2$$

Where : F is a force, m is a mass and v is a velocity.

Exercise 04

Which is the exact expression of the mechanical power :

- $P=(F.l)/t$
- $P=(F.l)/t$?

Exercise 05

If we take as base units : density (ρ), acceleration (γ) and pressure (π).

- Write the dimensional equations of length (l), mass (m) and time (t) in the ($\rho\gamma\pi$) system?