

Homeostasis

→ the control or regulation of internal conditions of a cell/organism.

→ examples of internal conditions:

- Temperature
- pH
- water content
- blood pressure
- blood glucose concentration.

* it is important for an organism to keep these internal conditions within set limits to ensure they stay healthy and maintain optimum conditions; to allow the organism to function in response to external and internal changes.

* homeostasis maintain optimal conditions for enzyme action and all cell functions.

If these limits are exceeded;

→ this causes that reaction in body cells death of organism.
Can function as a whole can live.

examples

- control of water content in body
- control of body temperature

If the body temperature is monitored and controlled by thermoregulatory

centre (in the base of the brain) as blood passes through it.

Contains receptors that are sensitive to the temperature of blood.

If the skin also contains temperature receptors that send nerve impulses to the thermoregulatory centre.

The brain then coordinates a heating or cooling response depending on what is required.

Control of body temperature in humans

The core body temperature of human is 37°C

A change in the core body temperature with 2°C can be fatal.

→ Such temperature changes can stop essential enzymes from functioning optimally.

In human body must be able to make a coordinated response to any rise or fall in body temperature.