

**Officier électrotechnicien (externe)**

**E122 - Anglais maritime et technique**

**Durée : 1 heure.**

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L'usage de tout ouvrage de référence, de tout dictionnaire et de tout matériel électronique (y compris la calculatrice) est rigoureusement interdit.

**1<sup>re</sup> QUESTION (valeur = 20)**

**Traduire en français l'intégralité du texte suivant.**

"An automated system consists of a centralized controller which receives information of multiple sensors and once processed, generates the adequate orders for the actuators. The controller may carry out analogue or digital processes.

The most common analogue controller is the PID controller (proportional-integral-derivative). It is a control loop feedback mechanism widely used in industrial control systems. A PID controller attempts to correct the error between a measured process variable and a desired set point by calculating and then outputting a corrective action that can adjust the process accordingly.

A PLC (programmable logic controller) is a digital computer used for automation of industrial processes, and designed for multiple inputs and output arrangements, extended temperature ranges, immunity to electrical noise, and resistance to vibration and impact. Programs to control machine operation are typically stored in battery-backed or non-volatile memory. A PLC is an example of a real time system since output results must be produced in response to input conditions within a bounded time, otherwise unintended operation will result.

A sensor is a type of transducer. Sensors, such as a thermocouple, produce an output voltage or other electrical output which must be interpreted by another device (such as a computer). Most sensors are electrical or electronic.

An actuator is a mechanical device for moving or controlling a mechanism or system. It can be a pneumatic actuator, a motor, a hydraulic cylinder, etc”

*Nota :*

*Dans le cas où un(e) candidat(e) repère ce qui lui semble être une erreur d'énoncé, il (elle) le signale très lisiblement sur sa copie, propose la correction et poursuit l'épreuve en conséquence. De même, si cela le (la) conduit à formuler une ou plusieurs hypothèses, il (elle) doit la (ou les) mentionner explicitement.*

*La copie rendue ne devra, conformément au principe d'anonymat, comporter aucun signe distinctif, tel que nom, signature, origine, etc. Si le travail demandé comporte notamment la rédaction d'un projet ou d'une note, il convient de s'abstenir de signer ou d'identifier le document.*