

1. Choose the correct options: Sensors consist of

**X** Sensor transmitter

☐ HMI

**X** Measuring circuit and amplifier

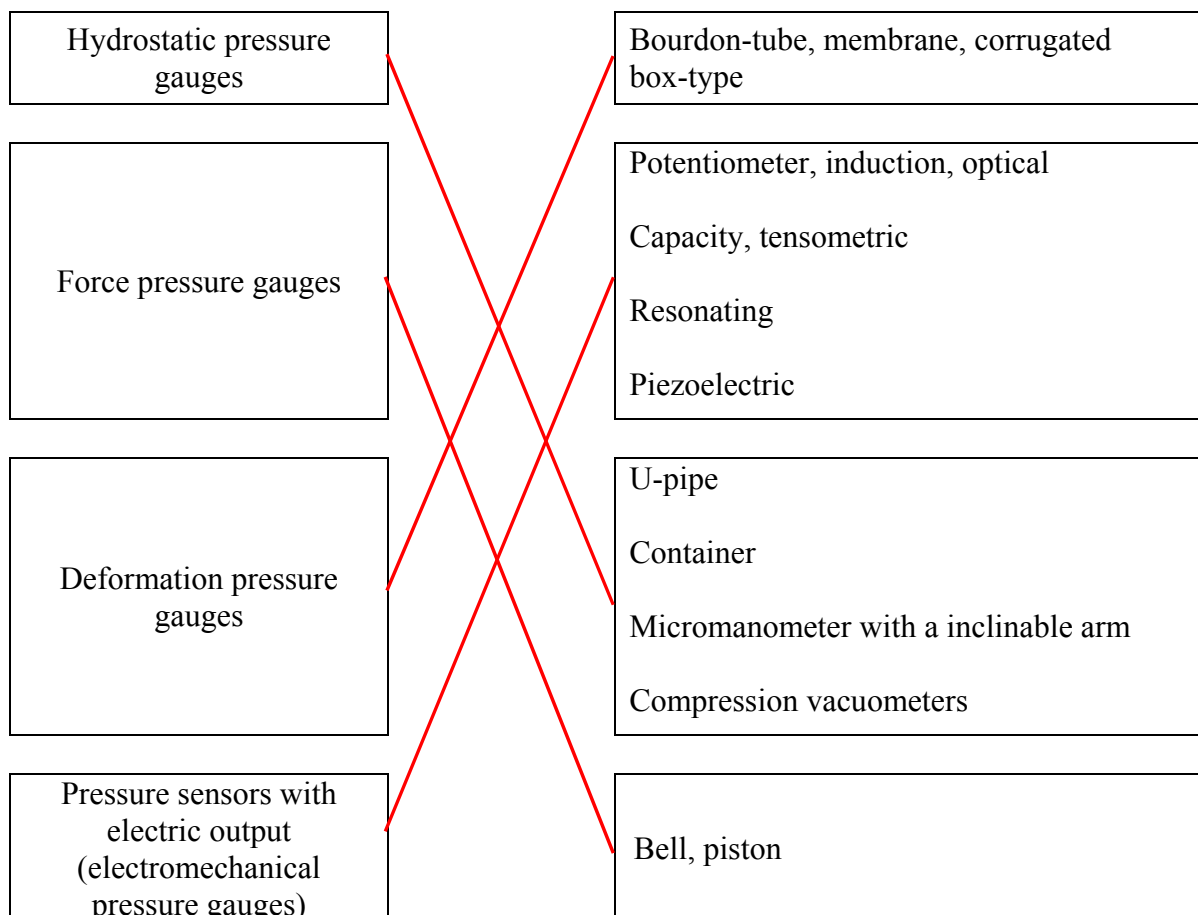
☐ DCS

**X** Signal processing circuits

**X** Analogue to digital converter

**X** Communication circuit

2. Assign the terms from the left column to the corresponding ones on the right!



### 3. Complete the sentence!

$\left( \begin{array}{c} \text{Pitot Tubes} \\ \text{Section Gauges} \\ \text{Paddle Wheel Flow Meters} \\ \text{Piston Flow Meters} \end{array} \right)$  are the most accurate sensors used for flow metering.

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### 4. Choose the correct option: Programming according to IEC/EN 61131-3 can use the following types:

☐ IRL (Independent Relay Language)

**X LD (Ladder Diagram)**

☐ PL (Pascal language)

**X ST (Structured Text language)**

**X IL (Instruction List language)**

**X FBD (Function Block Diagram language)**

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### 5. Fill the correct elements in the corresponding blocks!

Frequency Converters are used  
for **smooth control of  
asynchronous motors**

Softstarters are used for **smooth  
starting of asynchronous  
motors**

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### 6. Complete the sentences!

Control is a **process using a feedback to reach the desired objective**.

SCADA (Supervisory Control And Data Acquisition) **enables supervision, control, and archiving of events in technological processes**.



## 7. Explain the main types of systems

Hybrid systems – **are combination of logical and continuous systems**

Logical (binary) systems – **are systems which communicate with their neighbourhood through binary signals (yes/no or 1/0).**

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## 8. Choose the correct option!

\_\_\_\_\_ **a** \_\_\_\_\_ – is the main characteristic of synchronous motor

- a) Equality of rotor speed with magnetic stator field**
- b) Mutual electromagnetic influence of rotating magnetic field of rotors and stators
- c) Non-equality of rotor speed with magnetic stator field

\_\_\_\_\_ **b** \_\_\_\_\_ – are suited especially for high-force applications

- a) Asynchronous Motors
  - b) Hydraulic actuators**
  - c) Pneumatic actuators
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## 9. Complete the sentence!

Ultrasonic Flow Meters use  $\left( \begin{array}{c} \text{semiconductor effect} \\ \text{Doppler effect} \\ \text{Aharonov-Bohm effect} \\ \text{Gibbons-Hawking effect} \end{array} \right)$  as the main principle for measurement.

