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**

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

|  |  |  |
| --- | --- | --- |
| Hydrostatic pressure gauges |  | Bourdon-tube, membrane, corrugated  box-type |
|  |  |  |
| Force pressure gauges |  | Potentiometer, induction, optical  Capacity, tensometric  Resonating  Piezoelectric |
|  |  |  |
| Deformation pressure gauges |  | U-pipe  Container  Micromanometer with a inclinable arm  Compression vacuometers |
|  |  |  |
| Pressure sensors with electric output (electromechanical pressure gauges) |  | Bell, piston |

1. Complete the sentence!

are the most accurate sensors used for flow metering.

1. 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)**

1. 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**

1. 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**.

1. 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)**.

1. Choose the correct option!

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

1. **Equality of rotor speed with magnetic stator field**
2. Mutual electromagnetic influence of rotating magnetic field of rotors and stators
3. Non-equality of rotor speed with magnetic stator field

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

1. Asynchronous Motors
2. **Hydraulic actuators**
3. Pneumatic actuators
4. Complete the sentence!

Ultrasonic Flow Meters use as the main principle for measurement.