I, the undersigned, hereby declare that I agree to fulfill as a student the Ethics Code from ESPOL, regarding the “Behavior of the Polytechnic Community” in all its articles. Otherwise, I will accept the sanctions that ESPOL may have on me.

Signature:

In the following questions, provide answers with technical criterion.

1) Explain the functioning of the *highway addressable remote transducer protocol* (HART protocol), defining its main operation parameters, such as operating current, distance covering, bit precision, among others.

2) Why the HART protocol is set with the frequency shift keying technique (FSK) instead of other modulation technique?
3) Provide the following definitions with a brief explanation.
   a) Modbus

   b) Profibus

   c) Profinet

4) Provide a detail explanation of fieldbus as an industrial network system. Include in the explanation the operation characteristics and the cabling aspects during deployment.