ESCUELA SUPERIOR POLITÉCNICA DEL LITORAL FACULTY OF ELECTRICAL AND COMPUTER ENGINEERING



TELEMETRY AND REMOTE CONTROL (TLMG1004)

espol

THIRD EXAM 2019-2T – 12/Feb/2020

Student:	ID:
	igned, hereby declare that I agree to fulfill as a student the Ethics Code from ESPOL, regarding the "Behavior of the Community" in all its articles. Otherwise, I will accept the sanctions that ESPOL may have on me.
Signature:	
CHOOSE	THE OPTION THAT FITS THE BEST.
1) W	hich one of the following statement corresponds to the concept of fieldbus:
b)	It is an industrial network system for real-time distributed control that connects instruments in a manufacturing plant. It is an industrial network system that only connect to RS-232 interfaces for monitoring and controlling events in manufacturing plants. It is an industrial network that operates exclusively in ranges from 4A to 20A in processes related to manufacturing. Chosen option:
2) SC	CADA systems are composed by (choose two):
a) b) c)	Remote terminal units. Human-Machine Interfaces. Portable batteries. Chosen options:
3) W	hich one of the following is a characteristic of the RS-485?
a) b) c)	Its maximum data rate is about 1 kbps. Its typical logic levels are from 8 to 20 V. It could be deployed with a maximum cable length of approximately 1.2 Km.
4) Th	Chosen option: ne Modbus protocol recommends the industrial communication between:
	247 slaves and 100 master. 247 slaves and 10 master. 247 slaves and 1 master. Chosen option:
5) W	hich one is an advantage in a sensor to panel configuration for monitoring?
a) b)	It is easy to install additional sensors as the monitoring system grows. It allows real data managing during supervision of manufacturing processes.

c) It does not need software programming to configure monitoring options.

Chosen option: ____

BASED ON TECHNICAL ASPECTS, PROVIDE ANSWER TO THE QUESTIONS

6)	Explain the <u>use</u> of the HART commands oriented to common practice, universal practice, and instrumental specific.
7)	Introduce a brief explanation of the two formats of HART digital transmission: Poll/response mode and Burst/broadcast mode.
8)	State at least two profiles of PROFINET (e.g., CBA, IO, DCP, MRP, etc.) with their respective application and principal advantage.