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| Ing. Irma Irene García Razcón | |  | | |
| Nombre del Maestro(a): | Calificación: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |
|  | |  |  | 05-julio-2021 |
| Nombre de Alumno(a): Victor Manuel Galvan Covarrubias | |  | Fecha: |  |

**1. - Relate the columns, writing down the corresponding letter in the parentheses. Value 12 points.**

1. It is used in security products, lighting, doors and automatic doorbells.
2. They work by means of pulse width modulation.
3. It is an electronic component that allows current to pass in only one direction.
4. It is a type of light emitting diode and its name derives from the words Red, Blue and Green.
5. It is a digital data communication interface in which the information is transmitted sequentially bit by bit.
6. It is used in thermostatic controls, thermometers, aquariums, among others.

1. - Serial port (E).

2. – HC-SR501 Pir Sensor (A).

3.- DS18B20 Sensor (F).

4. – LED RGB (D).

5. - Servomotor (B).

6. - LED (C).

**2. - Select the correct answer. Value 10 points.**

1. – Describes a set of general guidelines for designing and implementing specific network protocols to enable a computer to communicate on a network.

A) Bluetooth technology B) TCP / IP technology C) GSM technology

2. – What type of serial communication we have when the transmission is unidirectional, that is, there is a single transmitter and a single receiver.

A) Duplex B) Full-Duplex C) Simplex

3. – It helps us to communicate with each other using cell phones, which according to…. they are called as mobile stations.

A) Bluetooth technology B) TCP / IP technology C) GSM technology

4. – It is a popular low-power wireless technology that is designed to share data between two devices in a short distance.

A) Bluetooth technology B) TCP / IP technology C) GSM technology

5.- What type of serial communication do we have when digital information can be received and sent simultaneously?

A) Full-Duplex B) Semi-Duplex C) Simplex

**3.- Answer correctly. Describes an IoT solution with the required sensors. The solution must be complete. Value 8 points.**

1.- Describe a Project or IoT solution using the PIR Motion Sensor.

R.- Monitoring of a room that has an established schedule of movement, that is to say that only at certain times it is allowed to enter that space. Once with the collected data, we could implement an alarm system that is activated remotely and sends data to the owner of the facilities, company or home.

2.- Describe a Project or IoT solution using the DS18B20 Temperature Sensor.

R.- Monitoring of a room that has a base temperature, either because inside there are goods that require a certain set temperature or because there are living beings that also need a certain temperature. Once with the data collected, we could implement a control of the available refrigeration systems or an alarm system that is activated remotely and sends data to the owner of the facilities, company or house.