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**1.- Relate both columns, noting the corresponding letter in parentheses. Value 10 points**

1.- Sensors and Actuators (J)

2.- Elements of an IoT system (F)

3.- Embedded System (B)

4.- IoT (A)

5.- Open Hardware (C)

6.- IoT architecture (E)

7.- Sensor (H)

8.- Actuators (I)

9.- Media (G)

10.- Open Software (D)

A). - It is the grouping and interconnection of devices and objects through a network, where all of them could be visible and interact.

B). - They are devices used to control equipment, also known as embedded or embedded.

C). - They are those devices whose specifications and schematic diagrams are publicly accessible, either under some type of payment or free of charge.

D). - It is a computer program where the user who owns the program has the freedom to copy, modify, redistribute and distribute it for the benefit of a community.

E). - In it, intelligent sensors interact, devices that function as a link bridge for the sending of information and platforms that protect the data for its interpretation in real time.

F). - Prototyping boards, sensors, communications, platform and applications are part of….

G). - Data network, Bluetooth, Serial, GSM, Wi-Fi, are part of …… .in an IoT system.

H). - It is a device that is capable of detecting external actions or stimuli and responding accordingly.

I). - An LED, motor, speaker or a screen, are some types of….

J). - They are in charge in an IoT system, to collect and process the information.

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

1.- Represents physical objects, such as sensors and actuators which aim to collect and process information.

a) Object layer b) Business layer c) Application layer

2.- It is the interface through which end users can interact with a device. This layer provides high-quality services to meet customer needs.

a) Object layer b) Business layer c) Application layer

3.- Manages all the activities and services of the IoT systems. Their responsibilities are: building a business model, charts, flow charts, etc.

a) Object layer b) Business layer c) Application layer

4.- Monitoring and control systems require ……… to measure physical quantities such as linear position, acceleration, pressure, flow, force, linear velocity and angular velocity, temperature, distance and vibration.

a) Actuators b) Sensors c) LEDs

5.- Its basic function is to receive a signal, and based on that signal, it performs a joint action. They are unable to process the data.

a) LM-35 b) Sensors c) Actuators

**3.- Write the correct answer. Value 10 points**

1.- It is a telecommunications technology that allows wireless interconnection between computer and electronic systems, such as computers, video game consoles, televisions, cell phones, players, etc.

R.- WiFi

2.- It is a communication standard for mobile telephony, implemented by combining satellites and terrestrial antennas.

R.- GSM

3.- This technology allows communications without cables or connectors and the possibility of creating home wireless networks to synchronize and share the information that is stored in various equipment such as photos, music, videos, etc.

R.- Bluetooth

4.- Infrastructure whose design enables the transmission of information through the exchange of data. These networks are generally based on packet switching. They can be classified in different ways according to physical architecture, size, and distance covered.

R.- Data network

5.- Digital communication module for an embedded system, allows communication between two digital devices. This sends the information through a sequence of bits. For this, at least two connectors are needed to carry out data communication, RX (reception) and TX (transmission).

R.- Serial communication