**1) Two similar applications, belonging to different use cases of the same vertical**

a) might be quite different in terms of their platforms, and processing, but are similar in terms of heir regulatory bodies, and standards.

**2) In what sense the IoT traffic is not the same as the traffic generated by human?**

d) All of the above

**3) A wireless sensor network is \_\_\_\_\_**

b) an IoT network, if it is connected to the Internet

**4) The term “Internet of Things” was first used by**

a) Kevin Ashton, to promote Radio Frequency Identification (RFID) technology

**5) Why is there a need for IoT gateway?**

a) To enable many IoT devices with different connectivity methods or protocols

to connect to the Internet via the gateway

**6) Can IoT devices also play the role of IoT gateway?**

a) Yes, but only one IoT device can become the IoT gateway

**7) For stationary IoT devices directly connected to the power source and not using**

**batteries, is low power consumption still a requirement?**

c) Yes, due to existence of massive number of IoT devices, reducing the power

consumption of each device reduces the energy that is needed to be produced

to power these devices.

**8) What is the principal idea to reduce the power consumption of IoT devices?**

c) The IoT device needs to go to sleep if it does not have anything to perform.

**9) Technologies such as WiFi, BLE or Zigbee are part of**

d) Non of the above

**10) IIOT stands for**

c) Industrial Internet of Things

**11) Can IoT devices be used for medical purposes to treat the patients**

**automatically?**

d) Yes, by analyzing the collected data, the information for treatment can be

sent to the IoT device. The IoT device should have the equipment needed for

treatment.

**12) What are the sensor(s) and connectivity options that you can find on an IoT**

**medical device for a person with no mobility issues?**

b) An IoT device can have one or several sensors such as body temperature,

pulse, blood pressure. The connectivity should be wireless due to the patient’s

mobility.

**13) Assume that IoT applications have generated more than 500 zettabytes of data**

**in 2019. If the number of generated data increases by 4 times in 2020, how much**

**data is generated in this year?**

b) 2 Yottabytes

**14) Which of the following is an example for smart grid edge device that plays the**

**role of IoT gateway in utility use cases?**

a) Smart Meter

**Review questions- Chapter 1**

**1. To find the trajectory of a bird during a year, an IoT device is installed on the**

**body of the bird. Explain what types of IoT connectivity schemes can be used**

**for this application?**

EL desplazamiento del ave no es tan fácil de seguir o pudiera parecer impredecible, por ello se requiere una buena conectividad y cobertura, considero que una opción puede ser Iot de celular.

**2. Explain how a smart helmet can provide emergency support in case of an**

**accident. Use a smart phone as an IoT gateway for this application.**

El casco puede tener un o una serie de sensores conectados empleando una conexión de BLE y el receptor perfecto puede ser un teléfono inteligente, optar emplear esta tecnología hace que el teléfono sea una puerta de enlace para la iot, los sensores pueden detectar golpes y el teléfono analiza la información para determinar si es algo sin importancia o algo grave.

**3. Describe how a smart racket can be beneficial to train the tennis players.**

Se puede utilizar una serie de sensores, incrustados en la raqueta, ya sea en el mango o algún tipo de sensor que detecte a que distancia del centro de la raqueta esta golpeando la pelota, con ello es posible analizar la información, el angulo de inclinación, la cantidad de golpes que recibe la pelota, la fuerza y un porcentaje de cuando se esta golpeando la pelota en el mejor pinto de la raqueta y asi poder mostrar las estadísticas al jugador.

**4. Give an example of an IoT system that provides safety for the driver of a vehicle.**

Se pude utilizar gafas, una cámara que detecte las acciones del conductor, la temperatura corporal, para detectar si el conductor parpadea mas de lo normal o si mantiene los ojos cerrados mas de lo establecido por un umbral determinado, además de analizar el comportamiento del conductor para compararlo con un umbral y asi poder determinar si el conductor esta a punto de dormir o si es que no presta atención se puede alertar al conductor.

**5. In the scenario explained in section 1.3.3, it was written that the industrial**

**company generates 15 GB of data per day from its welding machines in each**

**factory. Show how this has been calculated.**

Por cada punto de soldadura se generan 15Kb y cada operación demora 10s generando un total de 150 Kb, ya que hay 500 plazas por cada maquina realizando la operación de 150Kb \* 500 = 75 Mb y la fabrica construye una cantidad de 200 equipos por día entones 200 \* 75 son 15Gb