

ASSIGNMENT - 3

SET - 1

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Branch: CSE (Lateral Entry)

Group: 616-A

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Subject Code: 20CS1-357

Subject: Internet of Things

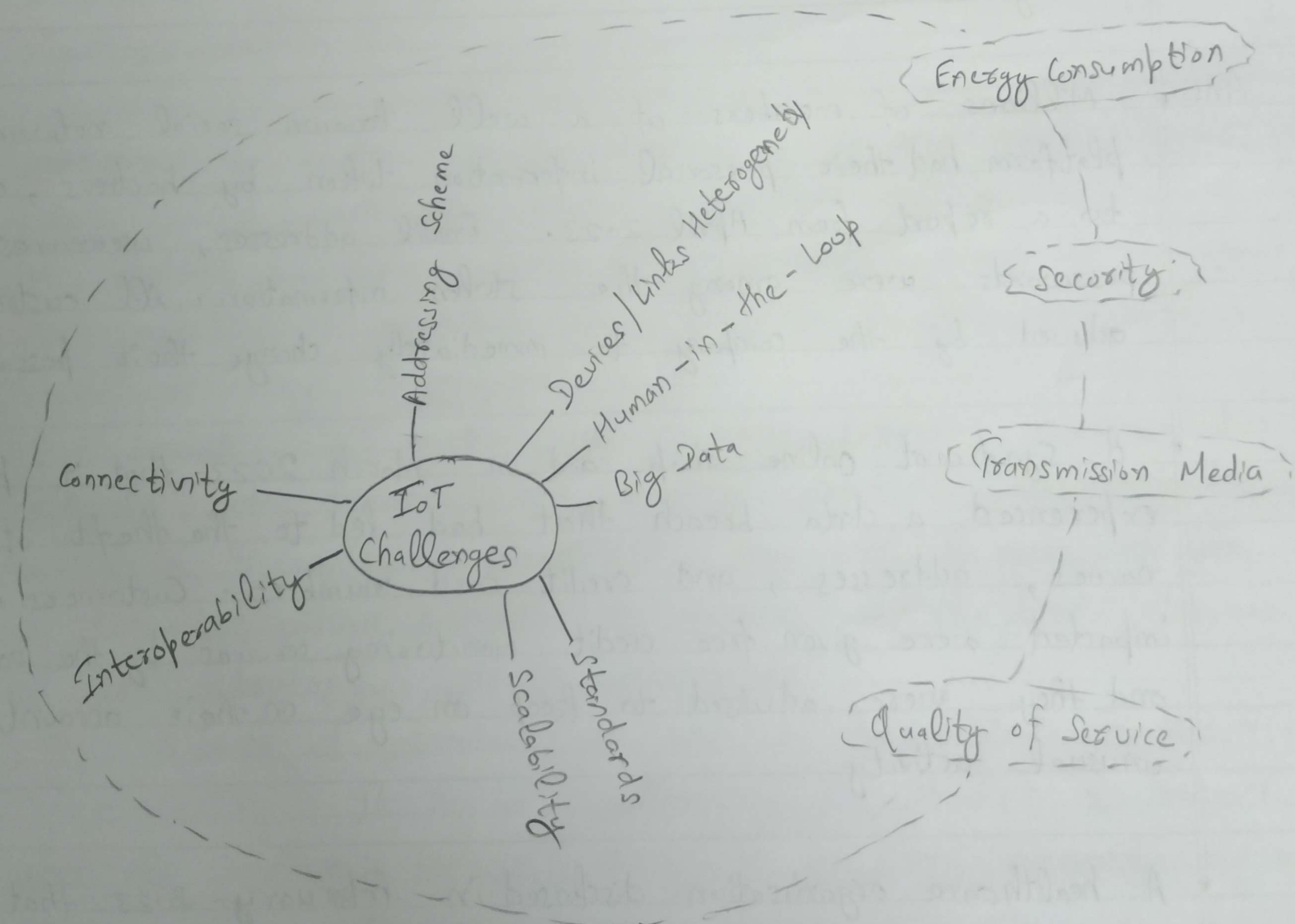
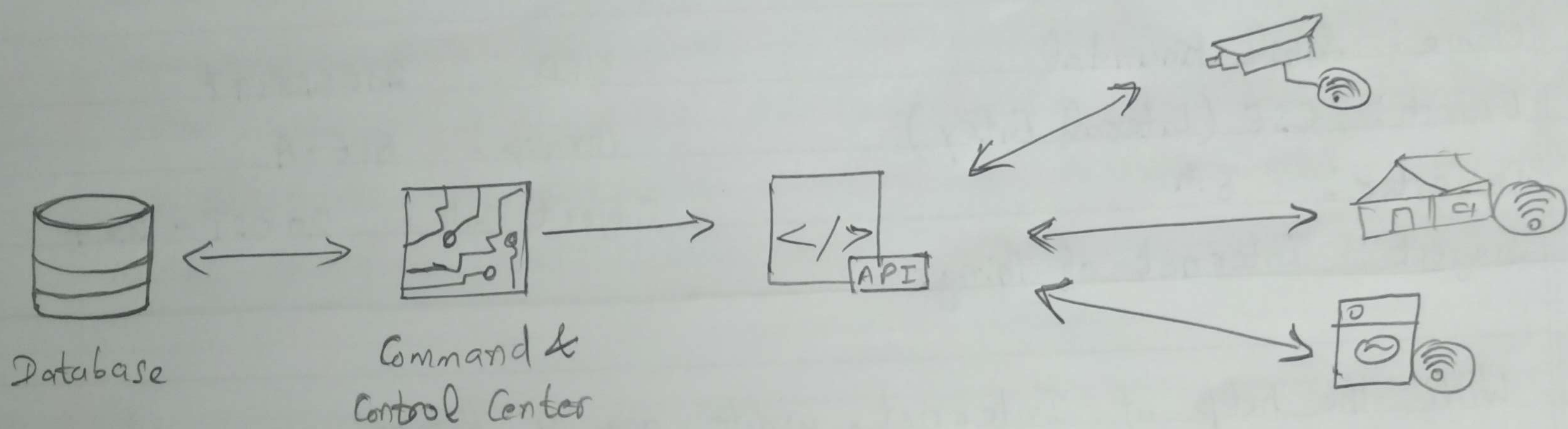
Q1. With the help of Internet, write any 4 latest news where data being stolen.

Ans. Millions of members of a well known social networking platform had their personal information taken by hackers, according to a report from April 2023. Email addresses, usernames, and passwords were among the stolen information. All customers were advised by the company to immediately change their passwords.

- A significant online shop said in March 2023 that it had experienced a data breach that had led to the theft of customer names, addresses, and credit card numbers. Customers who were impacted were given free credit monitoring services by the corporation, and they were advised to keep an eye on their accounts for any unusual activity.

- A healthcare organisation disclosed in February 2023 that it had been the victim of a cyberattack that had stolen private patients' information. The provider encouraged the impacted individuals to keep an eye on their medical records for any unauthorised modifications and provided free credit monitoring services.

- A significant financial institution revealed that it had detected a data



breach that had happened months earlier in January 2023. Customer's names, addresses, Social Security numbers, and other private financial information were stolen as a result of the incident. Customers who were impacted were advised by the institution to keep an eye on their accounts for any unauthorized activity and were given access to free credit monitoring services.

Q2. Interoperability challenges inhibit opportunities for additional IoT advantages. Explain it.

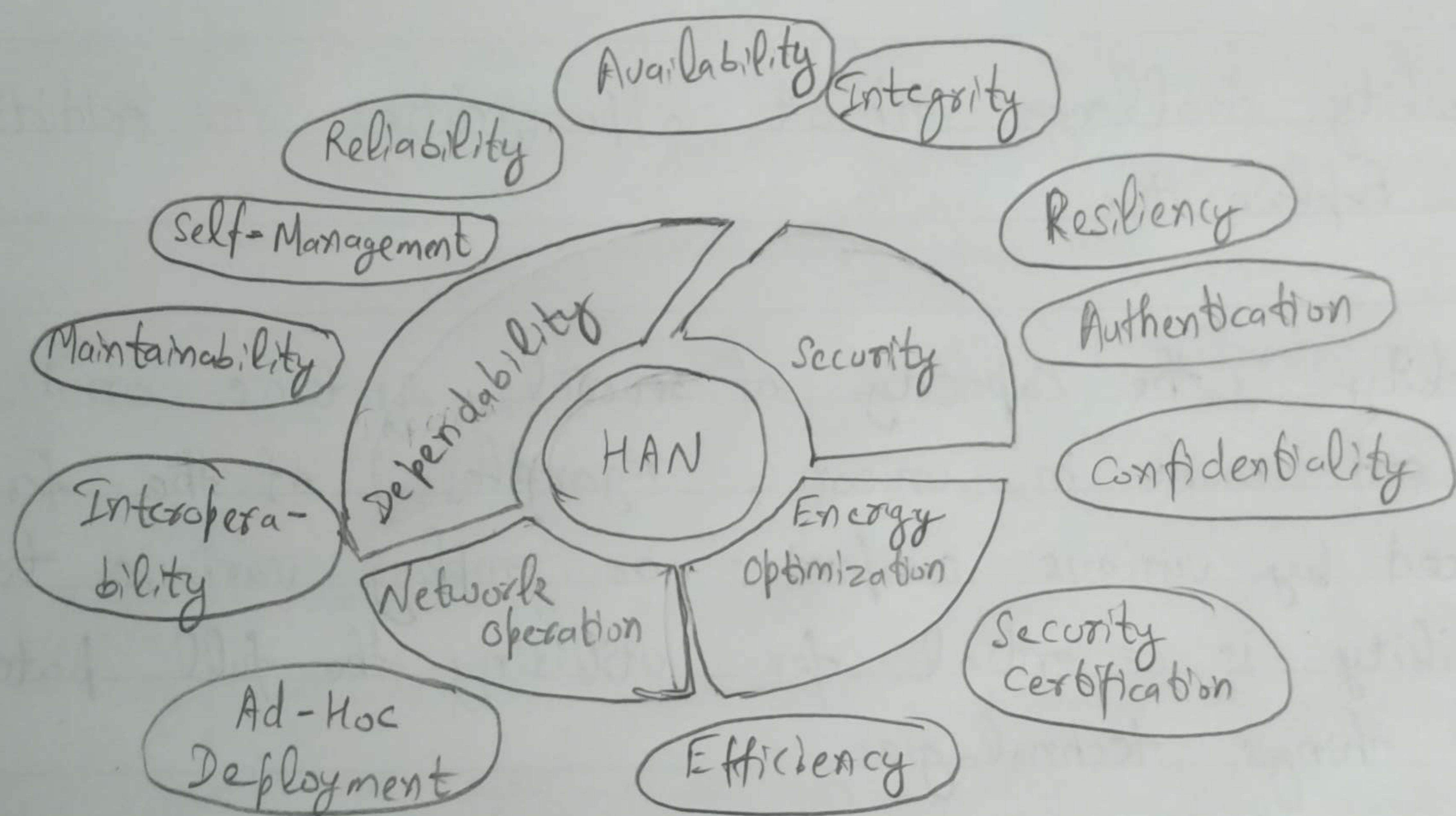
Ans.

Interoperability is the capacity of several systems and devices to interact and work in unison, regardless of the fact that they are produced by various companies or employ various technology. Interoperability is essential for utilising the full potential of Internet of things technologies.

But because IoT system use so many different communication protocols, data formats, and security standards, achieving interoperability is frequently difficult. This may make it more difficult to integrate various systems and devices, which limits the use of IoT technology and its advantages.

The absence of standards is one of the main obstacles to interoperability. It can be challenging for devices to interact with one another because there is no one, broadly agreed standard for IoT connectivity.

Additionally, it can be challenging to integrate many IoT devices because they are made to operate with particular software or platforms.



Helpful
to achieving the objective

Harmful
to achieving the objective

Internal

Strengths

Weaknesses

External

opportunities

Threats

The platform's problem of security is another difficulty. When integrating IoT devices into a bigger system, there may be hazards because different IoT devices may have different security standards or vulnerabilities. It might be quite difficult to guarantee that all gadgets and systems adhere to the same security requirements.

Scaling of IoT systems is particularly challenging due to the lack of compatibility. The complexity of connecting them grows as additional devices and systems are added, making it harder to maintain and administer the entire system.

Q3. Study HAN Standard and do the SWOT Analysis.

Ans.

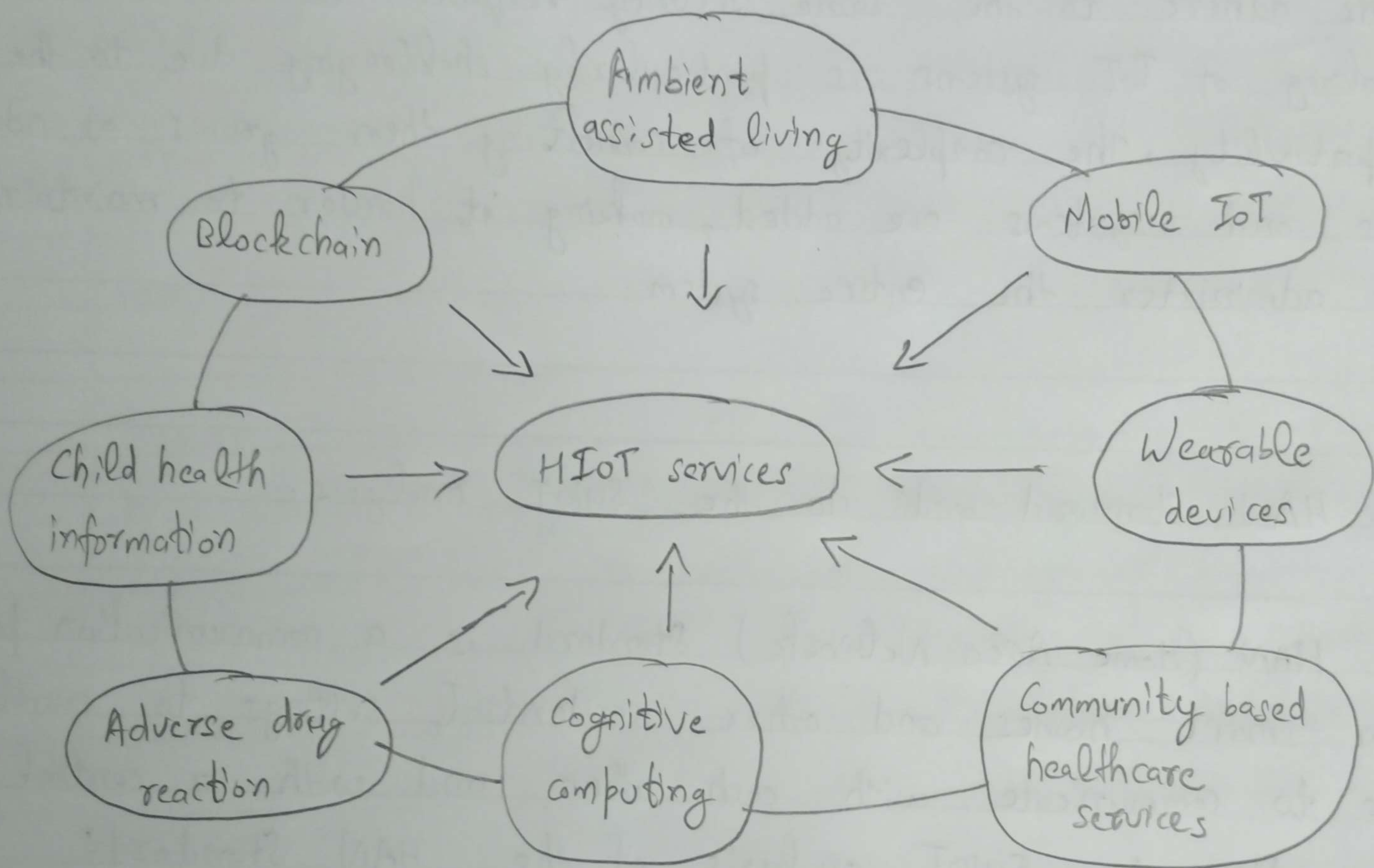
The HAN (Home Area Network) Standard is a communication protocol used in smart homes and other residential settings to enable devices to communicate with each other and with a central control system. Here is SWOT analysis of the HAN Standard:

Strengths :-

- HAN standard is a well-established and widely used protocol, making it easier for manufacturers to design devices that can communicate with other devices in a smart home environment.
- HAN Standard is a flexible protocol that can support a wide range of devices and applications, making it versatile and adaptable to different needs.

Weaknesses :-

- HAN standard can be limited in terms of the range of devices it can support, which can restrict its potential for growth and innovation.



- HAN Standard can be vulnerable to security breaches if devices are not properly ~~security~~ secured or if security protocols are not followed.

Opportunities :-

- HAN Standard is positioned for growth as more devices and systems become connected in smart home environments.
- HAN Standard can be used to enable new and innovative applications in the home automation space, such as energy management and remote monitoring.

Threats :-

- HAN Standard may face competition from other communication protocols, which could limit its adoption and growth.
- HAN Standard may be subject to regulatory scrutiny and ~~that~~ changing standards, which could impact its future development and use.

Q4. List IoT Devices used in Medical Sector (Any 5).

Ans.

1. Smart wearables :- Wearable devices such as smartwatches, fitness bands, and health monitors are increasingly being used to track vital signs, such as heart rate, blood pressure, and oxygen levels.
2. Remote patient monitoring devices :- Devices such as blood glucose monitors, blood pressure monitors, and ECG monitors can be used to monitor patients remotely and transmit data to healthcare providers in real-time.
3. Smart inhalers :- Inhalers that can track usage and dosage, and

provide feedback to patients on their inhalation technique, have been developed to help patients with respiratory diseases manage their condition more effectively.

4. Health trackers :- Devices that track daily activity, nutrition, and sleep patterns are being used by healthcare professionals to monitor patient health and provide personalized care.

5. Smart beds :- Beds equipped with IoT sensors and cameras can monitor patient movements, sleep patterns, and vital signs, alerting healthcare providers to any changes in conditions.