

Unit → 1 IOT

Date..13-08-24..

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→ Introduction of IOT ⇒ IOT stands for "Internet of things". IOT refers to anything and everything in day to day life which is accessed or connected through the Internet.

IOT is a system of interrelated things, Computing devices, mechanical and digital machines, objects, animals, or people that are provided with unique Identifiers. And the ability to transfer the data over a Network requiring human-to-human or human-to-Computer interaction.

→ Features of IOT ⇒ The most important features of IOT on which it works are ⇒

Common

i) Connectivity ⇒ Connectivity refers to establish a proper connection between all the things of IOT to IOT platform it may be server or cloud.

ii) Analyzing ⇒ After connecting all the relevant things, it comes to real-time analyzing the data collected and use them to build effective business intelligence.

iii) Integrating ⇒ IOT Integrating the various models to improve the user experience as well.

iv) Active Engagement ⇒ IOT makes the connected technology, product or service to active engagement b/w each other.

Teacher's Sign.....

Date.....

Connectivity
1.

Analyzing
2.

Integrating
3.

Artificial Intelligence
4.

Active Engagement
5.

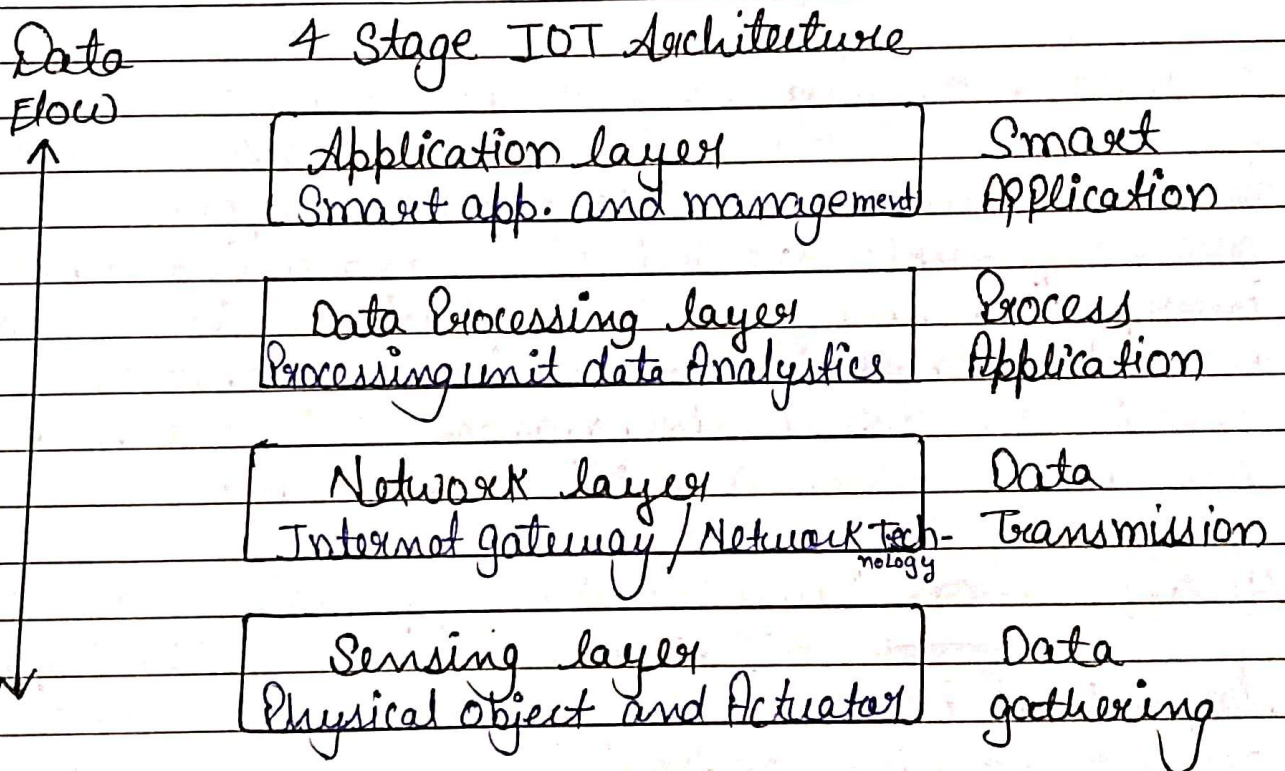
5.) Artificial Intelligence → IOT makes things smart and enhance life through the use of data.

For Example → If we have a coffee machine whose beans have going to end, then the coffee machine itself order the coffee beans of your choice from the retailer.

→ Benefits of IOT: There are many benefits of IOT are: →

- ① Efficient resource utilization
- ② Save time
- ③ Human effortless and minimum errors.
- ④ Security
- ⑤ userfriendly
- ⑥ Easy to use
- ⑦ Minimum human effects
- ⑧ development of AI through IOT.

→ Architecture of IOT : → Internet of things technology has wide range of applications and the use of the internet of Things is growing so fastly. IOT is the networking of physical objects that contains electronics embedded within their architecture to communicate and sense interactions amongst each other or to the external environment.



i) Sensing layer : → The sensing layer is the first layer of the IOT architecture and is responsible for collecting data from different sources. This layer includes sensors and actuators that are placed in the environment to gather information about temperature, light, sound and other physical parameters. wired or wireless comm. protocols connects these devices to the network layer.

2) Network layer :→ The Network layer of an IOT architecture is responsible for an IOT system providing communication and connectivity b/w devices in the IOT System. It includes protocols and technologies that enable devices to connect and communicate with each other and with the wider internet.
 Example :→ wifi, Bluetooth, Cellular networks such as 4G and 5G technology.

3) Data Processing layer :→ The data processing layer of IOT architecture refers to the software and hardware components that are responsible for collecting, analyzing and interpreting data from IOT devices. The data processing layer include variety of technologies and tools, such as data management system, analytics platform and ML algorithm.

4) Application layer :→ The application layer of IOT architecture is the topmost layer that interact directly with the end-user. It is responsible for providing user-friendly interfaces and functionalities that enable user to access and control IOT devices. This layer includes various software and application such as mobile apps, web portals and other user.