Course Name : O Level(B4-Ist sem.)   Subject : ITT&NB
Topic : Introduction to Futureskills   Date   : 04-06-20
          and IoT(Internet of Things)

Introduction to Futureskills

FutureSkills is a new age learning experience platform from **NASSCOM (National Association of Software and Services Companies)** for building skills in ten futuristic technology areas. These technologies are *Robotics Process Automation(RPA), Artificial Intelligence (AI), Internet of Things (IoT), Cyber Security, Blockchain, Virtual Reality (VR), Social & Mobile, Big Data Analytics, Cloud Computing and 3D Printing*. The FutureSkills platform was launched by the Hon'ble Prime Minister of India on 19[th]February 2018 at World Congress of Information Technology, Hyderabad in the presence of senior industry leaders and government officials to **Upskill Technology Professionals in India.**

Internet of Things (IoT)

The **Internet of things (IoT)** is the system of interrelated computing devices, such as vehicles, home & office appliances and other devices that contain electronics, software, actuators, and connectivity which allows these things to connect, interact and exchange data. It involves extending Internet connectivity beyond standard devices, such as desktops, laptops, smart phones and tablets, to any range of traditionally dumb or non-internet-enabled physical devices and everyday objects. Embedded with technology, these devices can communicate and interact over the Internet, and they can be remotely monitored and controlled.

Features of IoT:

There are following features of IoT:

- Communicating objects based on internet technologies
- Detection, identification and location of physical objects
- Communication through connectivity
- Every physical object must be equipped with an IPv6-address.

Some real world Example of IoT Application:

1. Smart Cities

The Internet of Things (IoT) offers new opportunities for cities to use data to manage traffic, make better use of infrastructure and keep citizens safe. The objective of Smart city would be to use technology to offer services that are intelligent, advanced, affordable and accessible.

2. Smart Home

In smart home, all necessary things like switches, lights, AC (all electronic equipments) are controlled by Mobile application or Personnel computer. This technology provides homeowners security, comfort, convenience and energy efficiency by allowing them to control smart devices, often by a smart home app on their smartphone or other networked devices.

3. Healthcare

The internet of things has numerous applications in healthcare, from remote monitoring to smart sensors and medical device integration. The body functions monitoring sensors are connected to the network to update the doctor or the hospital about the patient's real-time status like heart beat status or liver functioning etc. Also in the critical situations an ambulance can be called automatically.

4. Agriculture

Applications of IoT in Agricultural systems are very useful for the formers. It helps in checking of soil moisture, nutrient and PH levels in the field. It also helps in weather forecasting, water requirement for crops etc. A system is built for monitoring the crop field with the help of sensors (light, humidity, temperature, soil moisture, etc.). The real-time data about the soil and crop status is being monitored by the farmer like the farmer gets a notification about watering the crops etc.

Exercise:

1. Write short notes on IoT(Internet of Things).