

## **Article 6: Internet of Things (IoT): Architecture and Applications**

The Internet of Things refers to a network of interconnected devices that communicate and exchange data to enable smarter systems.

### **IoT Architecture Layers**

- **Perception Layer:** Sensors and devices that collect data.
- **Network Layer:** Transmits data to processing systems.
- **Processing Layer:** Data analysis and decision-making.
- **Application Layer:** Provides services to end-users.

### **Applications**

- **Smart Homes:** Automated lighting, security, and appliances.
- **Industrial IoT (IIoT):** Monitoring machinery and predictive maintenance.
- **Healthcare:** Remote patient monitoring.

### **Challenges**

Security, privacy, and interoperability remain significant concerns.