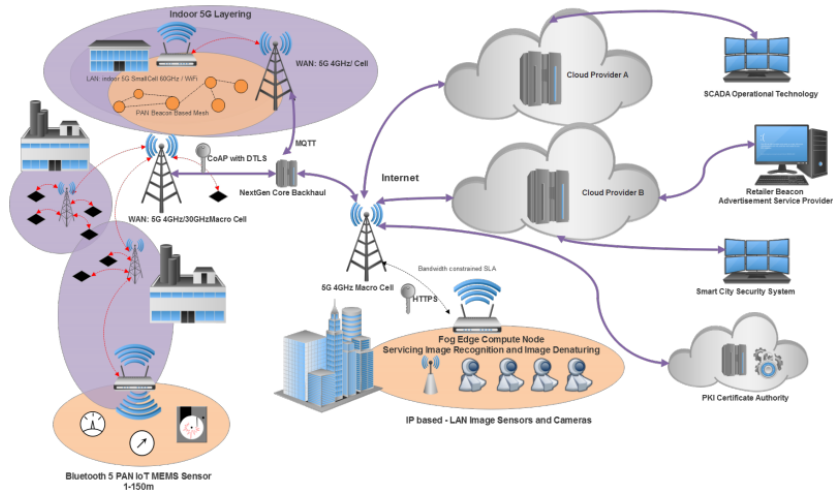# IoT: Objective, Scope and Outcome

Rahul Shandilya

# Syllabus

**RAJASTHAN TECHNICAL UNIVERSITY, KOTA**
**Scheme & Syllabus**
**IV Year- VII Semester: B. Tech. (Computer Science & Engineering)**

**7CS4-01: Internet of Things**

**Credit: 3**            **Max. Marks: 150(IA:30, ETE:120)**
**3L+0T+0P**            **End Term Exam: 3 Hours**

| SN | Contents | Hours |
|----|----------|-------|
| 1 | **Introduction:** Objective, scope and outcome of the course. | 01 |
| 2 | **Introduction to IoT:** Definition and characteristics of IoT, Design of IOT: Physical design of IOT, Logical Design of IOT- Functional Blocks, communication models, communication APIs, IOT enabling Technologies- Wireless Sensor Networks, Cloud computing, big data analytics, embedded systems. IOT Levels and deployment templates. | 08 |
| 3 | **IoT Hardware and Software:** Sensor and actuator, Humidity sensors, Ultrasonic sensor, Temperature Sensor, Arduino, Raspberry Pi, LiteOS, RIoTOS, Contiki OS, Tiny OS. | 07 |

| | | |
|---|---|---|
| 4 | **Architecture and Reference Model:** Introduction, Reference Model and architecture, Representational State Transfer (REST) architectural style, Uniform Resource Identifiers (URIs). Challenges in IoT- Design challenges, Development challenges, Security challenges, Other challenges. | **08** |
| 5 | **IOT and M2M:** M2M, Difference and similarities between IOT and M2M, Software defined networks, network function virtualization, difference between SDN and NFV for IoT. | **08** |
| 6 | **Case study of IoT Applications:** Domain specific IOTs- Home automation, Cities, environment, Energy, Retail, Logistics, Agriculture, Industry, Health and Lifestyles. | **08** |
| | **Total** | **40** |

# Books

## Text Book

# Books

## Text Book



## Reference Book