



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