

Course Code	Course Name	Course Type	Cd	L	T	P	Marks		
							Internal	Final Exam	Total
BCAMJ-403	Internet of Things	Major	4	4	0	0	40	60	100

Course Outcomes

At the end of the course the student will be able to	
CO1	Describe IoT concepts, frameworks, technologies and explain how they interrelate.
CO2	Analyze IoT architecture layers and components for efficient systems integration.
CO3	Evaluate IoT platforms and software for specific application needs.
CO4	Explain the security mechanisms to address threats and privacy issues in IoT.
CO5	Apply IoT solutions for real world Applications to address specific needs and challenges.

Detailed Syllabus
Section-A

Unit 1: Fundamentals of IoT: Introduction, Definitions & Characteristics of IoT, Physical & Logical Design of IoT, Enabling Technologies in IoT, IoT Entities, IoT frameworks, D2D and M2M.

(10 Hrs)

Unit 2: IOT Architecture: Basic Layer Architectures, IOT network layer entities, Sensors and Actuators, Techniques for Data Acquisition and Control, Edge Layer, Cloud Data Management Architecture, Data Storage Layer.

(10 Hrs)

Unit 3: IOT Enabling Platforms: Edge Device Platform, IOT Gateways Devices IOT Cloud Platforms, IOT Application Platforms, Processors, Softwares (OpenWSN, TinyOS, FreeRTOS).

(10 Hrs)

Section-B

Unit 4: Security and Privacy in IOT: Security issues and Threats, Security Mechanism, Privacy issues, End to end communication Security, Layer wise Security issues, Machine Learning and its importance in IOT Security.

(10 Hrs)

UNIT-5: Applications of IoT: Home Automation, Smart Cities, Transportation/Logistics, Agriculture, Health Care, Industrial Control, Latest trends in IOT.

(08 Hrs)

Textbooks

S. No.	Name of the Books	Author	Publisher	Edition (Pub. Yr.)
1	Internet of Things Concepts & Applications	Prof. K.N Raja Rao	Willey	1st(2021)
2.	Internet of Things	Arshdeep Bagha,Vijay Madiseti	Universities Press	7th(2022)

Reference Books

S. No.	Name of the Books	Author	Publisher	Edition (Pub. Yr.)
1	The Internet of Things Architecture, Implementation & Security	Michel Miller	Pearson	1st (2020)