

Code: 20ES1501

**III B.Tech - I Semester – Regular / Supplementary Examinations
NOVEMBER 2024**

**INTERNET OF THINGS
(ELECTRONICS & COMMUNICATION ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.
2. All parts of Question must be answered in one place.

BL – Blooms Level

CO – Course Outcome

			BL	CO	Max. Marks
UNIT-I					
1	a)	Define Internet of Things (IoT) and explain the evolutionary phases (Genesis of IoT).	L2	CO1	6 M
	b)	Discuss how IoT contributes to digitization across various industries.	L2	CO1	4 M
	c)	Discuss the challenges addressed by connected roadways.	L2	CO1	4 M
OR					
2	a)	Demonstrate the impact of IoT in Smart connecting buildings.	L3	CO1	5 M
	b)	What are the key challenges of IoT? Discuss.	L2	CO1	3 M
	c)	Explain the oneM2M IoT architecture with neat diagram.	L2	CO1	6 M

UNIT-II					
3	a)	List and explain the different sensors types.	L2	CO2	7 M
	b)	Define Smart Objects and produce the characteristics of the Smart Objects.	L3	CO2	7 M
OR					
4	a)	How Sensors and Actuators Interact with the Physical World? Explain.	L2	CO2	7 M
	b)	Explain the communication criteria in connecting Smart Objects in IoT.	L2	CO2	7 M
UNIT-III					
5	a)	What is a microcontroller and identify its uses in IoT devices?	L2	CO3	4 M
	b)	List and relate any two factors when choosing a platform in Embedded Computing.	L2	CO3	3 M
	c)	What is Arduino? Discuss the procedural steps for development on Arduino.	L2	CO3	7 M
OR					
6	a)	Illustrate Some Notes on Hardware and Openness of Arduino.	L3	CO3	7 M
	b)	Explain System-on-Chip (SoC) and give an example of its application in IoT.	L4	CO3	7 M
UNIT-IV					
7	a)	Explain the IP Protocol Suite (TCP/IP).	L2	CO4	7 M
	b)	Define IP address? Explain Static IP Address Assignment.	L2	CO4	7 M
OR					

8	a)	Explain IPv6 in detail.	L2	CO4	7 M
	b)	Explain HTTP protocol in detail and differentiate between HTTP and HTTPS.	L2	CO4	7 M
UNIT-V					
9	a)	Explain Scraping with examples.	L2	CO5	7 M
	b)	What is API and Illustrate the process of creating simple API.	L3	CO5	7 M
OR					
10	a)	Discuss the following i. Polling ii. Comet	L2	CO5	8 M
	b)	Explain Mashing of API.	L2	CO5	6 M