

Code: 20ES1402

**II B.Tech - II Semester – Regular / Supplementary Examinations
MAY 2024**

**INTERNET OF THINGS
(Common for CSE, AIML, DS)**

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

5 x 14 = 70 Marks

			BL	CO	Max. Marks
UNIT-I					
1	a)	What is IoT? Describe IoT World Forum (IoTWF) Standardized architecture using neat diagram.	L2	CO1	10 M
	b)	Explain the functionality of IoT network management sub layer.	L2	CO1	4 M
OR					
2	a)	List out the most significant challenges and problems that IoT currently facing. Consider one example and discuss in detail.	L2	CO1	7 M
	b)	With a neat diagram explain key elements of one M2M IoT Architecture.	L2	CO1	7 M

UNIT-II					
3	a)	Explain in detail the IEEE 802.15.4 wireless access technology.	L2	CO2	10 M
	b)	Illustrate different types of actuators, motors used in IoT applications.	L3	CO2	4 M
OR					
4	a)	What are different types of sensors and how to choose a sensor for an IoT application?	L3	CO2	4 M
	b)	Discuss about IEEE 802.11ah wireless access technology with a neat sketch. In addition, explain its application with two examples.	L2	CO2	10 M
UNIT-III					
5	a)	What is an Arduino? Discuss the advantages of Arduino.	L2	CO3	7 M
	b)	How to develop a programme on Arduino and demonstrate it with one example.	L3	CO3	7 M
OR					
6	a)	Choose the functions of Microcontroller Unit (MCU) and System on Chip (SOC) in Embedded Computing in detail.	L3	CO3	7 M
	b)	Construct notes on Hardware and Openness of Arduino.	L3	CO3	7 M
UNIT-IV					
7	a)	Analyze the performance of TCP-based IoT systems and UDP-based IoT systems.	L4	CO4	7 M

	b)	What is MAC address? Explain the differences between MAC and IP addresses.	L2	CO4	7 M
OR					
8	a)	What are the key advantages of the IP suite for the IoT? Explain in detail.	L4	CO4	7 M
	b)	Demonstrate the purpose of below mentioned DNS records: i) pop3.google.com ii) smtp.google.com iii) ns1.google.com	L3	CO4	7 M
UNIT-V					
9	a)	What is an API? Demonstrate the concept of Mashing and scrapping APIs.	L3	CO5	7 M
	b)	How to write new API? Discuss with example timer.	L2	CO5	7 M
OR					
10	a)	Discuss Extensible Messaging and Presence Protocol and Constrained Application Protocol and write the differences between them.	L2	CO5	7 M
	b)	What are REAL TIME-REACTIONS? Describe the two options such as “polling” and “Comet”.	L2	CO5	7 M