R22 Regulation *Subject code:4O6DA*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech VI Semester Regular Examinations, May 2025

INTERNET OF THINGS

(ECE)

Maximum Marks: 60 Date: 25.06.2025 Duration: 3 hours

Note: 1.This question paper contains two parts A and B.
2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X1M=10 Marks)		Marks	CO	Bloom Tx
1.a)	List any three characteristics of IoT.	1M	1	2
b)	Give one example of IoT application in home automation.	1M	1	3
c)	What is the full form of SDN and NFV?	1M	2	2
d)	Mention one benefit of using YANG in IoT device configuration.	1M	2	2
e)	What is the difference between a list and a tuple in Python?	1M	3	3
f)	Define a class in Python with a simple example.	1M	3	2
g)	Name one popular Linux OS used on Raspberry Pi.	1M	4	2
h)	Define a cloud storage model in IoT.	1M	4	2
i)	Name two sensors used in weather monitoring systems.	1M	5	3
j)	How can IoT improve energy efficiency in homes?	1M	5	4

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	Bloom Tx
2	Discuss the enabling technologies of IoT. How do technologies like RFID, sensors, and cloud computing contribute to IoT?	10M	1	3
	OR			
3	How is IoT applied in environmental monitoring? Discuss use cases such as pollution control and disaster detection.	10M	1	3
4	Differentiate between IoT and M2M. Compare them in terms of architecture, communication, scalability, and applications.	10M	2	3
	OR			
5	Describe the Simple Network Management Protocol (SNMP). How is it used in managing IoT networks?	10M	2	2
6	Explain control flow mechanisms in Python. How are decision-making and loops implemented in an IoT context?	10M	3	2
	OR			
7	List and explain any five Python packages of interest for IoT. Describe their use cases in real-world scenarios.	10M	3	3

8	Explain how Raspberry Pi can be programmed using Python. Give examples of interacting with sensors or actuators.	10M	4	4
	OR			
9	Explain how Django and Python can be used to design a RESTful web API.	10M	4	4
10	Discuss a case study of IoT-enabled smart lighting and smart appliance control in home automation.	10M	5	4
	OR			
11	Describe a complete IoT system used for air pollution monitoring	10M	5	3