



R22 Regulation

Subject code: 406DA

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VI Semester Supplementary Examinations, November 2025

INTERNET OF THINGS

(ECE)

Maximum Marks: 60

Date: 15.11.2025

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)	Point out the challenges faced by Internet of Things.	1M	CO1	BT1
b)	Differentiate between Logical and physical design of IoT.	1M	CO1	BT2
c)	State the characteristics of M2M network.	1M	CO2	BT1
d)	Which limitations make SNMP unsuitable for IoT systems?	1M	CO2	BT1
e)	What is a function in python?	1M	CO3	BT1
f)	What is JSON package in Python?	1M	CO3	BT1
g)	Give the use of SPI and I2C interfaces on raspberry pi.	1M	CO4	BT1
h)	Mention the basic types of APIs.	1M	CO4	BT1
i)	List out the Information model specifications for the Intrusion Detection system.	1M	CO5	BT2
j)	What is IoT based implementation of a smart irrigation management system?	1M	CO5	BT1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	Bloom Tx
2	Describe the IoT enabling Technologies with suitable explanations.	10M	CO1	BT2
OR				
3	With the help of neat diagrams, describe the levels of IoT with an example each.	10M	CO1	BT2
4	a) Explain the Key elements of Software defined network for IoT. b) Describe the structure of Network function Virtualization for IoT	5M 5M	CO2	BT4
OR				
5	a) Mention the network operator requirements to address the limitations of the existing network management protocols. b) What is NETCONF protocol? Explain different protocol layers present in Network configuration protocol.	5M 5M	CO2	BT3
6	Explain the various control flow statements of python with an example each.	10M	CO3	BT3

	OR			
7	Give an overview of how Python handles files along with examples to demonstrate various file operations.	10M	CO3	BT3
8	a) Write a Program to send a mail "Hello, from Raspberry pi" in python. b) Illustrate how to interface a switch to raspberry pi.	7M 3M	CO4	BT4
	OR			
9	Design a weather monitoring system with raspberry pi and write a python program to send the sensor data to cloud server for monitoring and visualization of sensor data.	10M	CO4	BT4
10	a) Design a smart home automation system using IoT with mode REST service. b) Explain service specification for home automation system in state service.	5M 5M	CO5	BT5
	OR			
11	a) Implement the air pollution monitoring system using the Web Socket approach. b) Which sensors are used in weather monitoring system? Which IoT level is used for weather monitoring system?	5M 5M	CO5	BT5