



R22 Regulation

Subject code: 4P6GC

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VI Semester Supplementary Examinations, November 2025

INTERNET OF THINGS

(CSE(AI&ML))

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)	List any two enabling technologies of IoT.	1M	CO1	1
b)	Define a sensor and an actuator in the context of IoT.	1M	CO1	1
c)	Name any one protocol used in IoT system management.	1M	CO2	2
d)	Write short notes on SDN in the context of networking.	1M	CO2	2
e)	What does 6LoWPAN stand for in IoT networking?	1M	CO3	3
f)	How is multihoming defined in the context of IoT networks?	1M	CO3	2
g)	What does the term "Interrupt" mean in the context of Arduino programming?	1M	CO4	1
h)	In Arduino programming, how are interrupts defined and what is their significance?	1M	CO4	2
i)	Name one cloud storage model commonly used in IoT systems.	1M	CO5	2
j)	Which cloud service provider offers the Xively Cloud platform for IoT?	1M	CO5	2

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	Bloom Tx
2	Explain in detail the physical and logical design of IoT. Include and describe functional blocks, communication models, and APIs involved in IoT systems.	10M	CO1	4
OR				
3	Discuss the major enabling technologies and connectivity layers of the Internet of Things (IoT). Explain how these technologies facilitate the development and functioning of IoT applications across various deployment levels. Illustrate your answer with appropriate examples.	10M	CO1	4
4	Describe the need for IoT system management. How do NETCONF and YANG contribute to efficient network configuration and data modeling in IoT?	10M	CO2	3
OR				
5	Elaborate on the role of SDN and NFV in IoT deployments. How do they help address network flexibility, virtualization, and scalability in modern IoT systems?	10M	CO2	3

6	Compare and contrast IEEE 802.15.4, ZigBee, and Bluetooth in terms of range, power consumption, and application suitability in IoT.	10M	CO3	4
	OR			
7	Analyze the role and limitations of IoT identification and data protocols. How do these differ from traditional web communication models?	10M	CO3	4
8	Discuss the working of interrupts in Arduino. How do interrupts help in real-time applications? Provide examples.	10M	CO4	3
	OR			
9	Elaborate on the pin configuration of the Raspberry Pi. Explain the role of the various GPIO pins in interfacing with external devices.	10M	CO4	3
10	Describe the different cloud storage models that are used in IoT applications. How do they support the storage needs of IoT devices?	10M	CO5	3
	OR			
11	Explain the function of communication APIs in IoT systems. How do they enable data transfer between IoT devices and cloud platforms?	10M	CO5	3