



R22 Regulation

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

Subject code: 4P5HE

B.Tech V Semester Regular/Supplementary Examinations, December 2024
INTERNET OF THINGS

(CSE(DS))

Maximum Marks: 60

Date:08.01.2025

Duration: 3 hours

- Note:**
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 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			CO	Bloom Tx level
All the following questions carry equal marks (10x2M=20 Marks)				
1.a)	List out different characteristics of IoT		1	L1
b)	List different types of sensors used to develop IOT		1	L1
c)	List out M2M applications		2	L1
d)	Mention one benefit of using NETCONF-YANG in IoT systems.		2	L1
e)	How NFC is useful in IoT/M2M applications?		3	L3
f)	Name two commonly used IoT data protocols.		3	L1
g)	Mention two advantages of using Arduino over traditional microcontroller platforms.		4	L1
h)	How can random numbers be generated in Arduino?		4	L3
i)	What does WAMP stand for in IoT communication?		5	L1
j)	What are different Services offered by cloud?		5	L1
Part-B				
Answer All the following questions. (5X10M=50Marks)				Bloom Tx level
2	a	Explain the logical design of IOT? Illustrate with diagram. [5M]	1	L2
	b	Discuss the advantages and disadvantages of using wired connections in IoT deployments. [5M]	1	L2
OR				
3	a	Define Internet of Things (IoT) and write its characteristics. [5M]	1	L3
	b	Explain about IoT communication model and communication protocols. [5M]	1	L2
4	a	What is M2M and compare IOT Vs M2M. [5M]	2	L4
	b	Describe M2M applications and its architecture with neat labelled diagram. [5M]	2	L2
OR				
5	a	Explain SDN architecture and its key elements. [5M]	2	L2
	b	Discuss the IoT system management with NET CONF and discuss the design methodology. [5M]	2	L2

6	a	What is 6LoWPAN and how does it relate to IPv6? [5M]	3	L3
	b	What is WSN? Explain in detail the architecture of WSN with a neat diagram. [5M]	3	L2
OR				
7	a	Compare Zigbee with other wireless technologies like Bluetooth and Wi-Fi. [5M]	3	L4
	b	What is Bluetooth Low Energy (BLE), and how does it support IoT applications? [5M]	3	L4
8	a	List out all the components and peripherals of Raspberry Pi board. [5M]	4	L2
	b	Write arduino code to transmit "Hello World – Code to demonstrate BT Communication" string on serial monitor using Bluetooth. [5M]	4	L3
OR				
9	a	Distinguish between Raspberry Pi and Arduino [5M]	4	L2
	b	What are the basic programming elements of Arduino (setup and loop functions)? [5M]	4	L2
10	a	What is a cloud? Explain how to store the sensor data in cloud [5M]	5	L3
	b	What are the key considerations while designing an IoT platform? [5M]	5	L2
OR				
11	a	Explain Cloud Communication APIs [5M]	5	L2
	b	What are the advantages of using cloud storage in IoT? [5M]	5	L2