



R22 Regulation

Subject code:4P5HE

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.TechV Semester Regular/Supplementary Examinations, November 2025

INTERNET OF THINGS

(CSE(DS))

Maximum Marks: 60

Date:14.11.2025

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	BloomTx
1.a)	Outline the characteristics of IoT.	1M	1	L2
b)	Define Internet Protocol V4(IPv4).	1M	1	L1
c)	Differentiate between IoT and M2M.	1M	2	L4
d)	What is SNMP?	1M	2	L1
e)	Where IEEE. 802.15.4 can be deployed?	1M	3	L1
f)	What is the use of ZigBee?	1M	3	L1
g)	Differentiate between digital and analog pins in Arduino	1M	4	L5
h)	Define Microcontroller.	1M	4	L1
i)	Give two advantages of cloud services.	1M	5	L3
j)	What is an IoT Platform?	1M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BloomTx
2	a) Describe with an example of an IoT service that uses a publish-subscribe communication model	5M	1	L6
	b) Explain the IoT enabling Technologies with suitable explanations	5M	1	L5
OR				
3	a) Demonstrate the IOT Components with neat diagram.	5M	1	L2
	b) Summarize the various applications of IoT.	5M	1	L6
4	a) Justify the statement with an illustrative scenario "IoT is better than M2M communication"	5M	2	L5
	b) Discuss various key elements of NFV Architecture.	5M	2	L6
OR				
5	a) With neat sketch explain SDN architecture	5M	2	L5
	b) Describe the role of a NETCONF server.	5M	2	L3
6	a) List Bluetooth key versions. What are the difficulties associated with them.	5M	3	L4

	b) Explain the architecture of a ZigBee network.	5M	3	L2
	OR			
7	a) Discuss in detail the role of 6LoWPAN in IoT b) Explain the principles of Radio Frequency Identification (RFID) technology.	5M 5M	3 3	L6 L5
8	a) Explain the key features of Arduino. How does it differ from a traditional microcontroller system? b) Describe the architecture of Raspberry Pi with a block diagram.	5M 5M	4 4	L2 L3
	OR			
9	a) Elaborate the main components of an Arduino UNO board with a neat labeled diagram. b) What are Arduino function libraries? Explain the use of some commonly used libraries with examples.	5M 5M	4 4	L6 L5
10	Describe the role of IoT Physical Servers and Cloud Offerings in IoT systems.	10M	5	L3
	OR			
11	Explain the architecture and features of Xively Cloud for IoT.	10M	5	L2