R22 Regulation *Subject code: 4E5FB*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech V Semester Supplementary Examinations, May 2025

FUNDAMENTALS OF IOT

(IT)

Maximum Marks: 60 Date:23.06.2025 AN 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)	Define IOT.	1M	1	L1
b)	List and define different types of communication in IoT.	1M	1	L1
c)	What are the benefits of M2M communication?	1M	2	L1
d)	Define interoperability.	1M	2	L1
e)	Write the role of Raspberry in IOT?	1M	3	L1
f)	What are the features of Raspberry Pi?	1M	3	L1
g)	List features of Data Handling	1M	4	L1
h)	What do you mean by SDN in IoT?	1M	4	L1
i)	What do you mean by Industrial IOT.	1M	5	L1
j)	How IoT is used in healthcare?	1M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	Bloom Tx
2	a) Explain the IoT sensing and actuation.	5M	1	L2
	b) What do you mean by IOT and it's features.	5M		L2
	OR			
3	a) Describe functional blocks of IOT Architecture.	5M	1	L2
	b) Explain about Communication Protocols.	5M		L2
4	a) Differentiate between IoT and M2M.	5M	2	L2
	b) Illustrate the Machine-to-Machine (M2M) Communications.	5M		L2
	OR			
5	a) Explain briefly about Arduino Programming.	5M	2	L2
	b) Explain integration of sensors and actuators with Arduino.	5M		L2
6	a) Write program to interface LED with Raspberry Pi Board.	5M	3	L2
	b) Explain pin diagram of Raspberry Pi Board.	5M		
	OR			

7	a) Discuss data types in Python with examples.	5M	3	L2
	b) Discuss control statements in Python with examples.	5M		L2
8	a) Write short notes on Implementation of IoT with Raspberry Pi.	5M	4	L2
	b) Discuss about Software defined Network (SDN).	5M		L2
	OR			
9	a) Write the difference between SDN and NFV for IOT.	5M	4	L2
	b) What is Data Handling in IOT.	5M		L3
10	a) Explain Sensor Cloud in details.	5M	5	L2
	b) How we can build Smart Home with IOT.	5M		L2
	OR			
11	a) Explain IoT in Agriculture.	5M	5	L2
	b) How we can build Smart City with IOT.	5M		L2