



R22 Regulation

Subject code: 4E5FB

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech V Semester Regular Examinations, December 2024

FUNDAMENTALS OF IOT

(IT)

Maximum Marks: 60

Date: 31.12.2024

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		CO	Bloom Tx
All the following questions carry equal marks (10X1M=10 Marks)			
1.a)	Write any four real time applications of IoT.	1	L1
b)	List any four communication protocols in IoT.	1	L2
c)	What is Machine-to-Machine Communication?	2	L1
d)	What is Arduino?	2	L1
e)	List python features.	3	L1
f)	How do you connect a Raspberry pi to the internet using a wired Ethernet connection?	3	L2
g)	Define Software Defined Networking.	4	L1
h)	What is role of data analytics in IoT?	4	L1
i)	What are some examples of sensors that can be used in agriculture?	5	L1
j)	How can IoT benefit the healthcare industry?	5	L2
Part-B			
Answer All the following questions. (5X10M=50Marks)		CO	Bloom Tx
2 a.	Draw Physical design of IOT in detail. [5M]	1	L2
b.	Draw the functional block diagram of an IoT and describe each component in functional block. [5M]		L3
OR			
3	Discuss about any two IOT communication models with examples. [10M]	1	L2
4 a.	Describe M2M Gateway with block diagram in detail. [5M]	2	L3
b.	Discuss about interoperability in IoT. [5M]		L2
OR			
5 a.	Explain about Arduino board details. [4M]	2	L2
b.	How to integrate sensors and actuators with Arduino? [6M]		L3
6 a.	Explain about Raspberry pi board. [4M]	3	L3
b.	Discuss about Raspberry pi Interfaces. [6M]		L2
OR			
7 a.	Write a python program for controlling LED with Raspberry pi. [5M]	3	L2

b.	Develop python program for controlling LED with switch/button using Raspberry pi. [5M]		L4
8 a.	Describe the architecture of Software Defined Networking. [6M]	4	L2
b.	What are the differences between Conventional Networking and Software Defined Networking? [4M]		L3
	OR		
9	Illustrate Map reduce algorithm with suitable example. [10M]	4	L3
10 a.	What is Industrial IoT? Explain IIOT architecture in detail. [4M]	5	L2
b.	Illustrate types of cloud computing models in detail. [6M]		L3
	OR		
11a.	What are the applications of IoT in agriculture? [5M]	5	L2
b.	Explain about smart grids. [5M]		L3