Q.P. Code: 18EC0449 **R18**

Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year II Semester Regular Examinations July-2021

INTRODUCTION TO IOT

(Open Elective-I)

Time: 3 hours Max. Marks: 60

PART-A

(Answer all the Questions **5 x 2 = 10** Marks)

1	a	Define IoT.	L1	2M
	b	What is a smart home?	L2	2M
	c	What is the difference between M2M and IoT?	L2	2M
	d	Define Arduino.	L2	2M
	e	What is the use of GPIO pins in a IoT device?	L6	2M

PART-B

(Answer all Five Units 5 x 10 = 50 Marks)

UNIT-I

2	a	Describe the characteristics of IoT.	L2	5M
	b	What are the protocols associated with network/internet layer of IoT? Explain them in detail.	L1	5M

OR

3	a	Describe the levels of IoT with suitable examples.	L2	5M
	b	Explain the request-response communication model of IoT with neat diagrams.	L2	5M

UNIT-II

4	a	Define how the IoT technology can be implemented in smart lightening and intrusion detection systems.	L2	5M
	b	Explain the implementation of IoT technology in following areas: (i) Emergency response (ii) smart roads in smart cities	L2	5M

OR

5	a	Describe how the environment can be more protected with the help of IoT technology in the following categories: (i) Air pollution monitoring (ii)Forest fire detection	L3	5M
	b	Describe the implementation of IoT technology into distributed energy systems to optimize the efficiency of energy infrastructure and reduce wastage in the following categories:(i) Smart grids (ii) Renewable energy systems	L3	5M

UNIT-III

6	a	Explain the differences between Machines in M2M and Things in IOT.	L2	5M
	b	Describe how SDN can be used for various levels of IoT.	L2	5M

OR

7	a	Draw the structure of Open flow Switch and justify it.	L3	6M
	b	Describe how NFV can be used for virtualizing IoT device.	L3	4M

UNIT-IV

8	a	Illustrate how Raspberry Pi is different from a desktop computer.	L4	6M
	b	Describe various features of a Raspberry Pi device.	L2	4M

OR

9	a	List out various versions of raspberry pi devices till date.	L2	5M
	b	Define module in python. Explain with an example.	L5	5M

UNIT-V

10	a	Design a smart home automation system using IoT With mode REST service.	L5	5M
	b	Define Domain model specifications for the Intrusion Detection system.	L2	5M

OR

11	a	Write a python code for IoT printer to Raspberry Pi.	L4	5M
	b	Write a python program for room and door REST services using serializes.	L4	5M

END