# Charotar University of Science and Technology

## Devang Patel Institute of Advance Technology and Research

### Department of Information Technology

**Subject: Internet of Things**　　　　　　　　　　　　　　**Semester: 7th**

**Subject Code: IT444**　　　　　　　　　　　　　　　　　　**Academic Year: 2022-23**

**Student ID:**_____**Student Name:**_____

## Practical Index

| Sr. No. | AIM | COs | Start Date | End Date | Grade | Assessment Date | Signature |
|---|---|---|---|---|---|---|---|
| 1 | Installation and configuration of Instant Contiki OS with Cooja. | 2 | | | | | |
| 2 | Study of different types of motes and deploy them using IoT architecture. Simulate Hello World program using Cooja. | 2 | | | | | |
| 3 | Create a scenario by adding some motes. Do the simulation for the same. Also observe the result for said scenario. When one mote send the signal then led should turn green while one receive then it should show red color. | 1 | | | | | |
| 4 | Simulate BGP and RPL protocol in Cooja. | 2 | | | | | |
| 5 | Simulate client server architecture using UDP on contiki-os. | 1,3 | | | | | |
| 6 | Demonstrate message publish & subscribe mechanism of MQTT protocol using node red. | 3,2 | | | | | |
| 7 | Simulate CoAP protocol in contiki os. | 3,2 | | | | | |
| 8 | Implement mini project and connect with IBM Bluemix & Thingspeak for data collection on cloud and plot the graph of it. Plotting data on thingspeak.com. Take analog input from ESP and pass that data to api.thingspeak.com and prepare an 2 online graph. | 3 | | | | | |

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| 9 | Uses of Mishellium gateway for Zigbee Communication. | 1 | | | | | |
|---|---|---|---|---|---|---|---|
| 10 | Study on Tiny OS architecture and implement blink program | 2 | | | | | |
| | **Part-2** | | | | | | |
| | Project while utilizing IoT concept should be build by the student and it should be submitted in the end of semester. 1. Market Survey Report 2. Hardware Feasibility Report 3. Uses and Feasibility in Indian scenario Students can do the project in the group or individual it depend upon the capacity of project and project should be approved by the lab teacher before start do work on it. | 2,3 | | | | | |