Code: 20ES1402

**II B.Tech - II Semester – Regular Examinations – JULY 2022**

# INTERNET OF THINGS
## (COMPUTER SCIENCE & ENGINEERING)

Duration: 3 hours                    Max. Marks: 70

Note:  1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.
2. All parts of Question must be answered in one place.

## UNIT – I

1.  a) Compare IT and OT networks and their various challenges in seven different criteria.            7 M
    b) Draw and explain the simplified view of standard IoT architecture.            7 M

### OR

2.  a) Articulate IoT World Forum (IoTWF) Standardized Architecture of all layers with neat sketch.            7 M
    b) Contrast the IoT and digitization in terms of photography industry.            7 M

## UNIT – II

3.  Categorize the sensors based on physical phenomena of measuring like position, occupancy and motion, velocity, force, pressure, flow, humidity, light, temperature, biosensors with examples.            14 M

### OR

4. Define electronics, sensors, and actuators with examples and describe how they can be used in prototyping of IoT with any application. 14 M

## UNIT-III

5. What is Arduino? Explore Arduino uno learning board . 14 M

### OR

6. a) Provide some notes on the Hardware and Openness of Arduino. 7 M

   b) Articulate the various criteria to choose the platform for prototyping of IoT systems. 7 M

## UNIT – IV

7. a) Sketch the IP suite neatly and describe all blocks involved in it with an application. 7 M

   b) Elaborate the role of IPV6 in powering devices of IoT. 7 M

### OR

8. a) Differences between IP, TCP, UDP of internet communications. 7 M

   b) Mention the purpose of below mentioned DNS records: 7 M
      i. pop3.google.com
      ii. smtp.google.com
      iii. ns1.google.com

## UNIT – V

9. a) List the key components of the Internet of Things and explore the features of Xively platform owned by Google. 7 M

   b) Explain the characteristics of MQTT, XMPP, CoAP protocols in IoT platform. 7 M

### OR

10. a) Define API & what are the steps required to look at a friend's photo on Flickr?      7 M

     b) Examine the following while writing a new API.      7 M

       i. API Rate Limiting

       ii. OAuth for Authenticating with other services

       iii. Interaction via HTML

       iv. Designing a Web Application for Humans